

# Commodity Credit Corporation COMMODITY CERTIFICATE AGRICULTURAL OUTLOOK

April 1987

Economic Research Service  
United States Department of Agriculture

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A Look at  
Generic Certificates



# AGRICULTURAL OUTLOOK

April 1987/AO-129



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# In Brief . . . News of the Peanut Program, Exports, Soil Erosion

Foreign production of most crops except cotton is up again in 1986/87, but U.S. output is lower, primarily because of greater participation in Government commodity programs with increased acreage reduction requirements. Total U.S. production of the major field crops in 1986/87 was down 9 percent from the record high of 1985/86. However, domestic stocks of corn, soybeans, and wheat on December 1 were high by historical standards and should remain so for the rest of 1986/87.

From April through December 1986, CCC issued \$3.85 billion worth of generic certificates. About \$1.8 billion of these had not been exchanged by January 1, 1987. An additional \$4.4 to \$5 billion in certificates have been authorized for issuance during January-August 1987. Issuance of these certificates will provide ample free supplies of corn and wheat in 1987.

Freeing of stocks through generic certificates is making U.S. grain more competitive on world markets. Last summer, for example, certificates were exchanged for 215 million bushels of corn. This helped increase marketable supplies, so farm-level corn prices averaged about \$2 a bushel—somewhat lower than they would have otherwise. The lower prices probably led to a use increase of 40 to 50 million bushels during the quarter.

The peanut program contains a two-tiered price support system, with loan rates of \$607 per ton for quota peanuts and \$150 per ton for additional



peanuts. Because peanut plantings have been controlled for so many years, it is difficult to determine how much the support price is above the market price. One measure may be the price at which U.S. producers are willing to supply peanuts to export markets—\$380 per ton for the 1986 crop, compared with the quota rate of \$607.

The cattle inventory on January 1, 1987, was 102.2 million head, 3 percent below a year earlier and the lowest since 1962. But, beef cow numbers rose 277,000 head, or 1 percent, the first increase since 1982. Dairy cow numbers were down 6 percent, primarily because of the Dairy Termination Program.

Total U.S. food spending is projected to increase 49 percent by 2000, assuming 2 percent growth in real income per year. Vegetables, fruit, and beef will enjoy the biggest gains in spending for consumption at home.

Ocean, rail, and barge excess capacity is declining in 1987, while current estimates of grain consumption and exports suggest that the demand for transportation will be larger than in 1986. Enough ships, barges, and rail cars will be available to meet the marketing needs of agricultural shippers. Consequently, there is little prospect for rate increases.

Over 5 billion tons of U.S. soil erode each year; erosion on cropland alone exceeds 3 billion tons a year. Large as those numbers may seem, from a national perspective, this much erosion does not pose a serious threat to the United States' ability to produce food and fiber. However, erosion is serious in some locales. The on-site costs of erosion exceed \$1 billion per year, but the off-site costs, such as pollution of rivers, are several times greater and must be borne by the general economy.

In 1987, foreign economic growth is expected to remain close to 2.6 percent, the same as in 1986, but above the 2.4 percent average of 1980-86. Partially because of this improvement, U.S. export volume is expected to rise from 110 to 114 million tons in fiscal 1987, the first increase in 7 years. However, the value of exports will be down about 1 percent due to a 5 percent fall in export unit values.

Government spending on farm programs in fiscal 1987 is projected at \$25.3 billion, compared with \$25.8 billion during 1986. During 1988 and 1989, the cost escalation during the first half of the 1980's will reverse. If current policy remains in force, annual farm program spending by 1992 will be down from last year's record by more than \$8 billion.





## Agricultural Economy

### LIVESTOCK OVERVIEW

#### *Hog Prices Remain Strong*

Barrow and gilt prices at the seven markets averaged \$48.73 per cwt in February, up \$1.34 from January. In January, hog marketings were apparently backlogged. Weights in February averaged 245 pounds, down 5 from January, but still 6 pounds above a year earlier and well above the 5-year average. Both the month-over-month liveweights and year-over-year slaughter rate decline suggest that producers became more current in their marketings in February.

Weights may continue to run above last year because of a relatively mild winter in the North Central States. Slaughter rates are in line with expectations based on the December 1 market hog inventory.

Frozen pork stocks continued low, lending support to hog prices. Stocks at the end of January totaled 177 million pounds, down 8 percent from a year earlier. Frozen belly stocks were 26 percent below 1986 holdings. However, these lower stocks may not actually boost hog prices further. The market is anticipating moderately larger production during the late spring and early summer, when stocks are normally reduced to meet the larger seasonal demand.

Also complicating the price picture were above average imports during

November-January, changing a trend of lower year-to-year imports. Nevertheless, composite retail prices continued to be higher than in recent years, averaging \$1.88 a pound in January. The farm-to-retail spread was \$1.12 a pound, surpassing December's \$1.10 record. The large spread should allow retailers to feature pork without hurting hog prices.

#### *Broiler Prices Near 1986*

Broiler production continues profitable in 1987, encouraging additional expansion. Feed costs are low and expected to remain so. In January 1987, broiler prices remained relatively high despite increased production. If broiler prices stay at current levels as expected, returns will remain favorable in 1987.

Production of broiler meat in 1986 was up 5 percent from 1985. Based on chicks hatched that could be slaughtered in first-quarter 1987, production may be 6 percent above 1986. Weekly egg sets and chick placements for early second-quarter slaughter are running 4 to 8 percent above last year. Based on cumulative 7- to 14-month pullet placements, the hatchery supply flocks will be 10 percent larger in the second quarter of 1987 than in 1986, enough for a 6-percent increase in hatching egg production.

First quarter prices likely averaged around 50 cents per pound, the same as in 1986. Smaller red meat supplies probably helped offset the price-depressing supplies of broilers. During second-quarter 1987, broilers are expected to average 52 to 56 cents per pound, near the 54 cents of a year earlier.

The preliminary estimate of turkey processors' 1986 wholesale net returns was 15 cents per pound. Over the year, returns ranged from a first-quarter low of 1 cent to 22 cents in the third quarter. Declining prices during first-quarter 1987, matched against decreases in feed ingredient costs, have put current returns near breakeven. Prices are expected to strengthen during the year, putting returns above costs again.

Output of turkey meat during 1986 was 12 percent above 1985. Based on poults placed that could be slaughtered in first-quarter 1987, production then was likely 16 percent above last

year. With Easter occurring in April in 1987, placements for early second-quarter slaughter have been sharply above last year, and second-quarter output may be 19 percent above 1986.

First-quarter prices for commodity pack 8- to 16-pound hen turkeys in the Eastern region may have averaged around 57 cents per pound, down from 62 last year. With increased production, prices normally would decline, but lower red meat supplies and higher prices likely offset increased turkey production. Thus, prices for young hen turkeys in the second quarter are expected to average 58 to 62 cents per pound, down from 68 in 1986.

The drop in early-1987 turkey prices from 1986 may have been due partially to larger carryover. Beginning stocks of frozen turkey totaled 179 million pounds on January 1, 1987, up 28 million from 1986. Almost all of the increase was in whole turkeys, with stocks of cut-up turkey about the same as last year. Stocks are expected to be drawn down in April as turkeys are featured for Easter. Normally, stock rebuilding for fourth-quarter consumption begins late in the second quarter and helps firm prices.

#### *Expansion from Dairy Producers Moderate*

February milk production declined about 3 percent from a year earlier, about the same as last fall. Cow numbers were down almost 5 percent because of the Dairy Termination Program (DTP). Milk per cow rose almost 2 percent from a year earlier in response to heavier concentrate feeding.

Non-DTP producers have continued to expand milk output, but only modestly. Their production in January probably was about 2 percent higher than a year earlier. Record-high milk-feed price ratios have encouraged heavier feeding and gains in output. However, conditions are not as favorable for herd expansion as during the early eighties. Returns are lower and milk producers are in worse financial health. In addition, the 1985 Food Security Act guarantees that the support price in future years will be lowered if large surpluses continue.

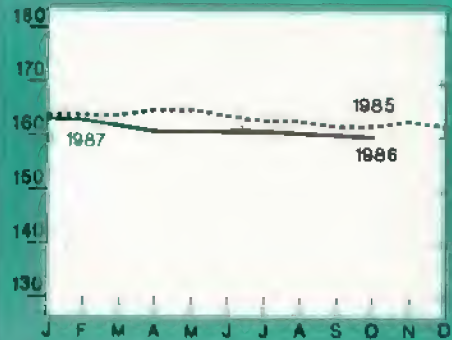
Declines in milk production will lessen as 1987 progresses. The number of cows slaughtered under the DTP will run well below 1986. Production probably will drop 2-4 percent during the first half of 1987, with a 1- to 3-percent drop expected for the entire year.



# Prime Indicators of the U.S. Agricultural Economy

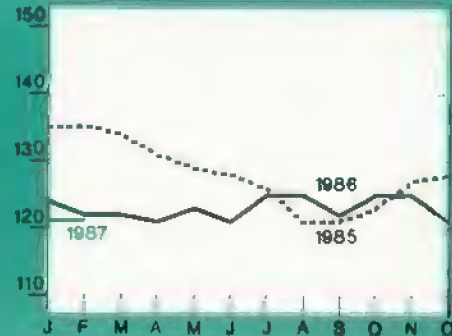
Index of prices paid by farmers<sup>1</sup>

1977 = 100



Index of prices received by farmers<sup>2</sup>

1977 = 100



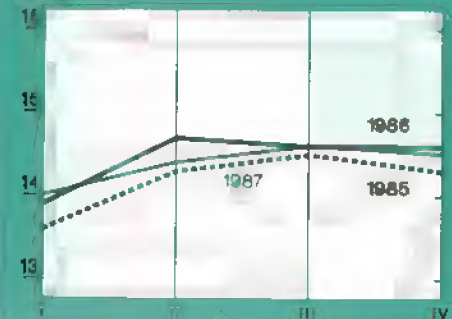
Ratio of prices received to prices paid

Percent



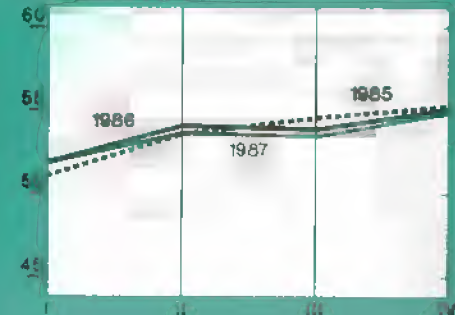
Red meat & poultry<sup>3</sup>  
production

Billion pounds



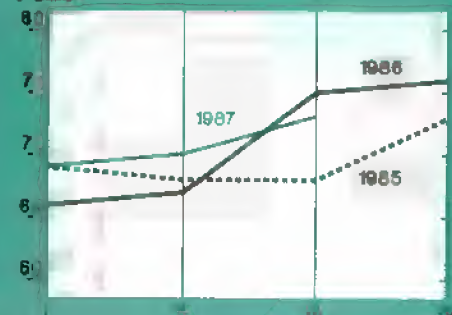
Red meat & poultry  
consumption, per capita<sup>3,4</sup>

Pounds



Cash receipts from  
livestock & products<sup>5</sup>

\$ billion



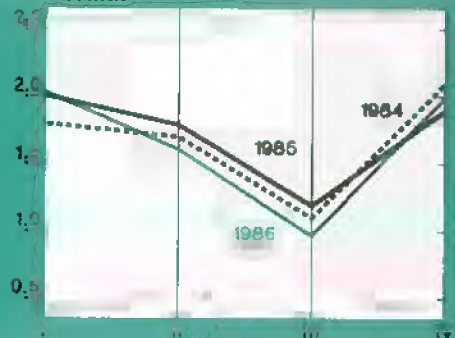
Corn beginning stocks<sup>6</sup>

Billion bushels



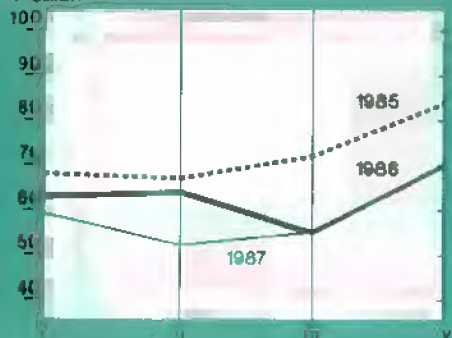
Corn disappearance<sup>6</sup>

Billion bushels



Cash receipts from crops<sup>5</sup>

\$ billion



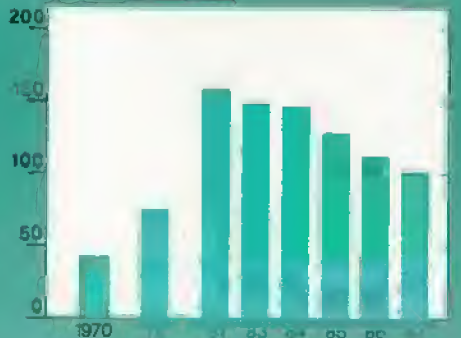
Farm net cash income

\$ billion



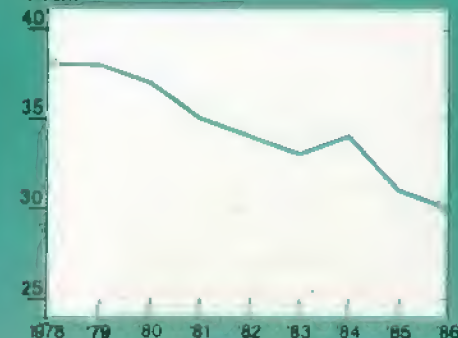
Farm real estate values

1977 = 100



Farm value/retail food costs

Percent



<sup>1</sup>For commodities and services, interest, taxes, and wages. Beginning in 1986, data are only available quarterly. <sup>2</sup>For all farm products. Calendar quarters. Future quarters are forecasts for livestock, corn, and cash receipts. <sup>3</sup>Retail weight. <sup>4</sup>Seasonally adjusted annual rate. <sup>5</sup>Dec-Feb.; <sup>6</sup>Mar.-May; <sup>7</sup>June-Aug.; <sup>8</sup>Sept.-Nov.

April 1987



Revised milk production estimates put 1986's output at 144.1 billion pounds, up slightly from 1985's 143.1 billion. Year-over-year, output went from an 8-percent increase during the first quarter to a 4-percent decline as the year ended. There were an average 10.8 million milk cows in 1986, down 1.6 percent from 1985. Milk per cow totaled 13,293 pounds, up 2.3 percent from a year earlier.

Prices for carton Grade A large eggs in New York during January-March 1987 likely averaged around 64 cents per dozen, down from 74 cents in 1986. Last year, an early Easter caused egg prices to rise in the first quarter. With Easter in April in 1987, the seasonal rise will occur a month later, and second-quarter prices may average 63 to 67 cents per dozen, up from 63 cents in 1986. Prices likely will decline in May and June.

### **Egg Production Climbing**

Egg production during first-quarter 1987 likely was slightly above first-quarter 1986. Eggs per layer on February 1 were slightly below a year earlier, but the number of layers was 2 percent above last year. With continued profits, egg producers are expected to increase production by keeping a slightly larger laying flock in 1987.

The flock is relatively young, and egg production per hen likely will be very near last year. In second-quarter 1987, egg production may be 1 percent above last year, even though the number of pullets entering the laying flocks will be nearly 8 percent below 1986.

Egg consumption has dropped from an average of nearly 320 eggs (fresh and processed) per person in the early 1960's to about 250 in 1985 and 1986. In contrast, consumption of processed eggs alone has increased from about 30 per person in the 1960's to 39 in the last 2 years. The increase in convenience food sales likely explains the increase. Processed eggs are broken under Federal inspection and used in bakery products, noodles, and other products.

### **For further information, contact:**

Ron Gustafson, cattle; Leland Southard, hogs; Allen Baker, poultry and eggs; and Jim Miller, dairy; (202) 786-1830

## **FIELD CROPS OVERVIEW**

Large world stocks, record to near-record foreign production of most crops, and low prices are boosting global consumption of all commodities in 1986/87. But, large foreign supplies of most crops are limiting expansion of world trade.

However, more competitive pricing and such Government programs as the Export Enhancement Program (EEP) are contributing to a recovery in the U.S. share of world markets. Export prospects for wheat, feed grains, and soybean meal and oil have improved over the past several months, but have slipped for soybeans and rice.

While foreign production of most crops except cotton is up again in 1986/87, U.S. output is lower, primarily because of greater participation in Government commodity programs with increased acreage reduction requirements. Total U.S. production of the major field crops in 1986/87 was down 9 percent from the record high of 1985/86. However, domestic stocks of corn, soybeans, and wheat on December 1 were high by historical standards and should remain so for the rest of 1986/87.

### **Foreign Food Grain Harvest Higher, But U.S. Crops Lower**

Large food grain crops have been harvested worldwide in 1986/87, despite lower U.S. production. Global rice output is projected at a near-record 319 million tons (milled basis), while the world's wheat crop will be the largest ever—528 million tons.

Although down from last year, rice stocks remain well above historical averages. The current season will end with record wheat stocks. Foreign producers will hold all of the increase, while the U.S. wheat carryover will remain close to last year's 52-million-ton record. Canada will account for over half the projected 14-million-ton increase in world stocks.

Because of large gains in Canada and the USSR, foreign wheat production is projected to rise 9 percent in 1986/87 to 472 million tons. Foreign rice output of 315 million tons will be only 1 million below last year's record.

World wheat trade (excluding intra-EC trade) in 1986/87 is expected to increase 3 million tons to 88 million. Much of the gain is due to larger trade in feed wheat. Expanded use of wheat for feed, particularly in the Soviet Union, accounts for over one-third of the projected 5-percent growth in foreign wheat consumption this year.

While world trade is up slightly, it remains well below the 102-million-ton average for the peak import years of 1981/82 to 1984/85. Much of the gap between this peak and the current trade level is caused by smaller Soviet imports—which come to only 15 million tons this year, compared with an annual average of 22 million from 1981/82 to 1984/85.

Because of improved prospects for trade with North Africa, Poland, and other EEP-dependent countries, U.S. wheat exports are now expected to rise 12 percent from last year to 1.03 billion bushels. However, about two-thirds of U.S. exports are likely to involve some combination of EEP, credit guarantees, food aid, and other Government programs.

With only a limited recovery in exports, the wheat carryover of 1.88 billion bushels continues to plague the U.S. industry, even as next season's crop develops. A major exception is Soft Red Winter wheat, with stocks the lowest since 1981/82.

Domestic producers planted 48.7 million acres of winter wheat last fall, 10 percent below the previous season and the lowest since 1978. Seedings were down because of heavy participation in the 1987/88 wheat program, an increase in the set-aside requirement from 25 to 27.5 percent, placement of acreage in the Conservation Reserve Program, and excessively wet fields in portions of the major wheat-growing areas. Seedings were lower in most major growing regions.

### **Coarse Grain Output Again Large**

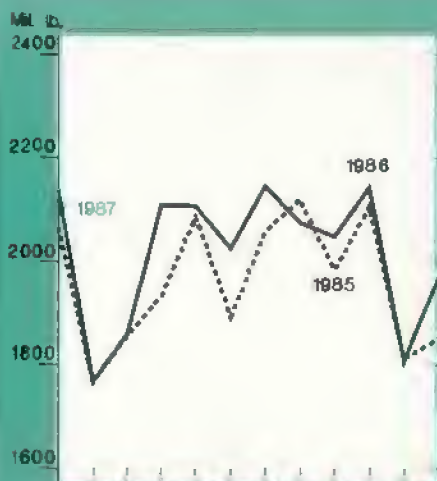
World coarse grain production in 1986/87 is expected to total 839 million tons, 6 million below last season's record but 45 million above projected world use. Consequently, world ending stocks will continue to rise.

Foreign production is projected at 586 million tons, up 16 million from

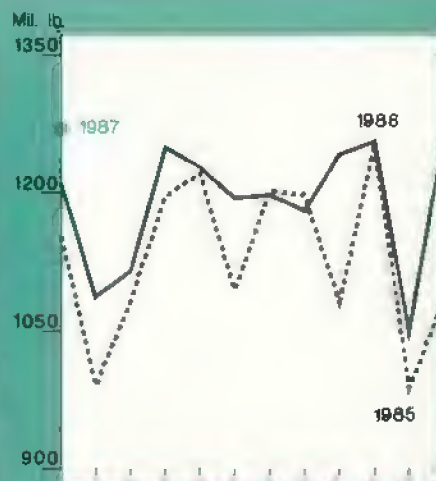


# Production of Livestock and Products

Commercial beef production



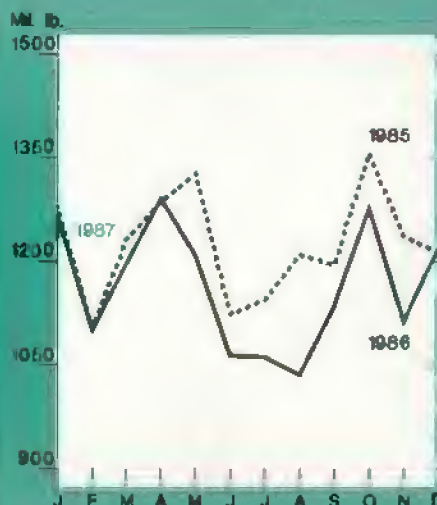
Broiler slaughter<sup>1</sup>



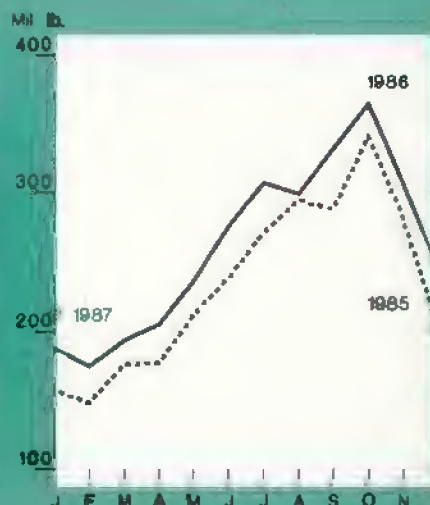
Egg production



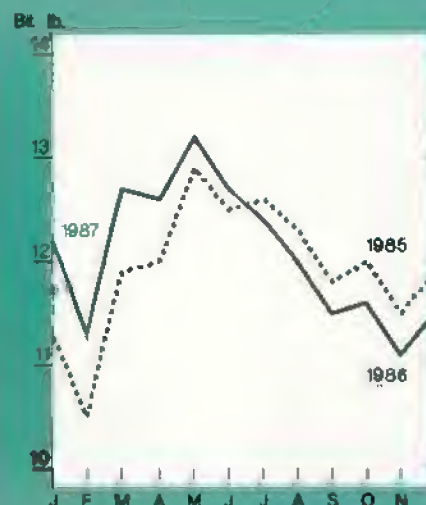
Commercial pork production



Turkey slaughter<sup>1</sup>



Milk production



<sup>1</sup>Federally inspected slaughter, certified.

1985/86. Larger crops in the USSR, Brazil, China, South Africa, and Canada are offsetting declines in Western Europe, Australia, Argentina, and Thailand. Foreign corn output has risen 14 million tons to a record 271 million. With a record Canadian barley crop and good Soviet production, foreign barley production is up despite lower EC and Australian output.

Foreign coarse grain utilization will expand more than 3 percent during 1986/87. Foreign stocks will increase slightly, and foreign imports are expected to gain a bit, going to 84 million tons (excluding intra-EC trade).

While U.S. corn sales are running far behind last year's pace, sales fell off much more sharply during the latter part of 1985/86 than is likely for 1986/87. And the outlook for U.S. exports has improved somewhat during the past month. The USSR purchased 1 million tons of corn, the first purchase of U.S. grain during 1986/87. Sales and shipments to Korea and Japan were up nearly 2.4 million tons as of early March.

So, U.S. corn exports for 1986/87 now are projected to be 32 million tons (1,250 million bushels), about the same as last year. Shipments to the EC-12 so far this year have been down sharply because Spanish and Portuguese purchases dropped when those

countries joined the Community. Sales to Spain under the recent agreement with the EC are not likely until later in the marketing year.

Larger U.S. sorghum and barley exports are projected for 1986/87. U.S. sorghum sales have picked up, and exports for the year are expected to total 225 million bushels, compared with 178 million last year.

U.S. barley sales are running well ahead of last year, and are expected to reach a record 150 million bushels, up from only 22 million last year. EEP sales of barley to Saudi Arabia will account for most of the total.



Domestic conditions, which point to another record feed grain carryout, offset the impact of the export projection. Record carryin, large crops, static demand, and low prices characterize the current situation.

As a consequence, despite heavy participation in Government programs, feed grain crops were large, further adding to huge domestic supplies. Corn stocks as of December 1 totaled 10.3 billion bushels, compared with 8.6 billion a year earlier. On-farm stocks were 6.8 billion bushels, while off-farm stocks were 3.5 billion.

Despite the most favorable hog-corn price ratio on record, domestic use of feed grains is expected to rise only slightly. Cattle and hog inventories are the smallest reported since the early 1960's, and farmers' financial problems are discouraging expansion.

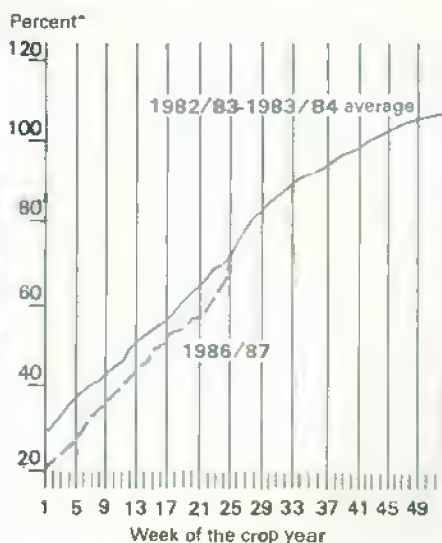
Thus, total feed grain carryout on August 31, 1987 is forecast to be 168 million metric tons, up 33 percent from a year earlier, and 79 percent of total annual use. The bulk of the carryout will be corn, which is expected to rise 38 percent to about 5.6 billion bushels, or 84 percent of annual use.

#### *U.S. Soybean Exports Falling, But Meal and Oil Exports Rising*

Record output of soybeans and rapeseed is expected to push 1986/87 world oilseed production slightly above the 1985/86 record of 195 million tons. More foreign production is offsetting the drop in U.S. output. Foreign soybean output, rebounding from an off year, will show the largest annual increase in over 20 years. World oilseed crush will increase, but ending stocks are expected to rise 12 percent. World oilseed trade will rise, with soybean exports expected to gain about 3 percent.

U.S. sales of soybeans and soybean meal are running ahead of this time last year, largely because last year's drought reduced the Brazilian crop, cutting U.S. competition. However, the pace of sales and exports is expected to slow sharply in coming months, as the large Southern Hemisphere crop is harvested. For 1986/87, U.S. soybean exports are projected to total 700 million bushels, 40 million below last year. But soybean meal shipments will rise 6 percent to 6.35 million short tons.

Com Export Commitments Point to Season Total of 125 Billion Bushels



\*Commitments as a percent of total exports for the season. Commitments = shipments accumulated each week plus outstanding sales.

Smaller palm oil shipments from Malaysia apparently have stopped the slide in world edible oil prices. Reduced Malaysian production means that global palm oil output will decline for the first time since 1982/83. While world edible oil supplies remain large, higher palm oil prices and reduced availability will allow U.S. soybean oil exports to rise to 1.35 billion pounds, reversing 4 consecutive years of declining U.S. shipments.

Domestic soybean crush is forecast to rise modestly to 1.12 billion bushels in 1986/87, helping to offset the drop in exports and lifting total disappearance by nearly 2 percent over last season to 1.91 billion bushels. But carryout is forecast to rise 18 percent over a year ago, to 635 million bushels. Also, because production is expected to exceed total use for both soybean meal and oil, 1986/87 ending stocks of those products are forecast to rise 49 and 27 percent, respectively.

#### *World Cotton Use Setting Another Record*

Cotton supplies worldwide are declining in 1986/87 as production falls and consumption rises, but ending stocks will remain excessive. World production is forecast to fall 12 percent to 70 million bales, the lowest since 1983/84's 68 million.

Annual consumption will reach a sixth consecutive record, rising about 3 per-

cent to 77 million bales. While prices have risen from the very low levels of last fall, they remain low relative to historical cotton prices and are slightly below polyester prices. Exports also will expand by 3 million bales, a 16-percent increase. Global stocks will fall from 48 to 40 million bales by the end of the season, but they will remain well above the 20-25 million bales common prior to 1984/85. China and the United States are accounting for almost all of the worldwide reduction in stocks this year.

Foreign cotton production will drop nearly 9 percent, while consumption is growing a healthy 2.5 percent. Thus, foreign stocks at the end of 1986/87 will be down 11 percent. Pakistan is the only major producer with a larger crop this year. Foreign exports likely will drop nearly 2 million bales as the U.S. market share rebounds to a more normal level.

Strong domestic and foreign demand and a reduced 1986/87 U.S. cotton crop have contributed to recent price increases here and abroad. Domestic growers produced 9.8 million bales in 1986/87, down from 13.4 million a year ago because of a 17-percent reduction in harvested area and a 12-percent drop in average yield. Carryout this marketing year is forecast to fall 41 percent from 1985/86 to 5.5 million bales.

The adjusted world price for cotton, announced weekly by USDA, has been above the loan repayment rate of 44 cents per pound since December 12, 1986. As a result, no additional first handler certificates are expected to be issued.

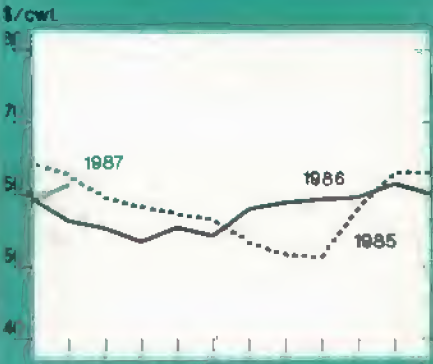
As the adjusted world price has risen steadily above the loan repayment rate, cotton certificates have fallen in value from near par in mid-December to around 80 percent of par value in late-February. When the adjusted world price is higher than the loan repayment rate, it is cheaper to repay price support loans with cash.

From August to January, certificate holders were able to redeem only cotton under loan. However, beginning January 2, certificate holders were able to exchange certificates for CCC-owned cotton, as well as cotton under loan, at the adjusted world (redemption) price. Certificates have been exchanged for nearly all the

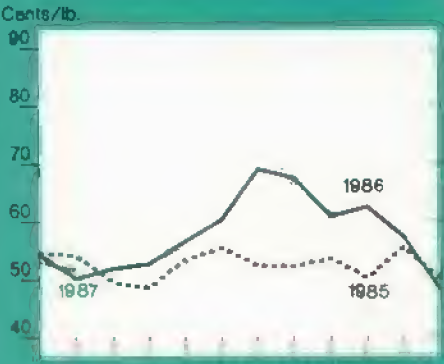


Commodity Market Prices

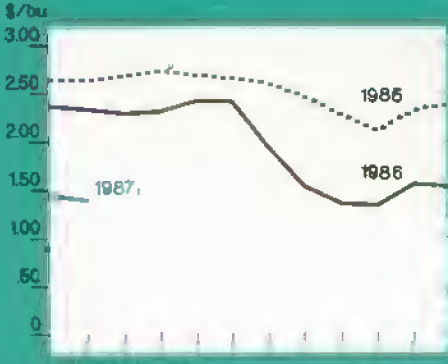
Choice steers, Omaha



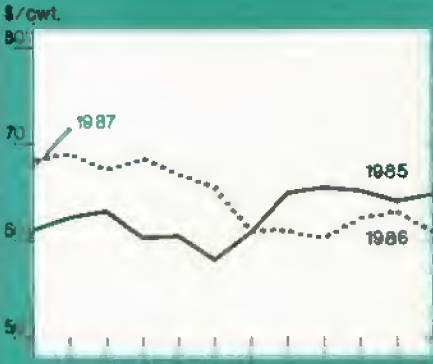
Broilers, 12-city average



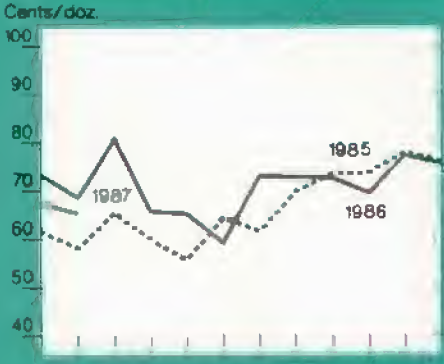
Corn, Chicago<sup>3</sup>



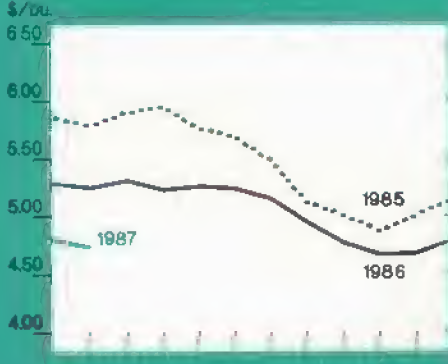
Feeder cattle, Kansas City<sup>1</sup>



Eggs, New York<sup>2</sup>



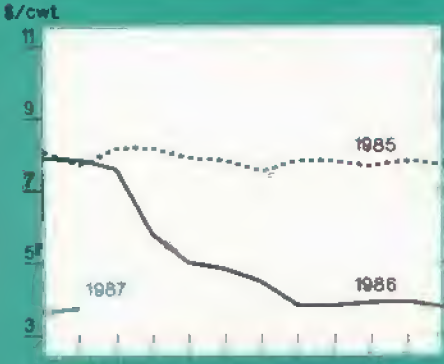
Soybeans, Chicago<sup>4</sup>



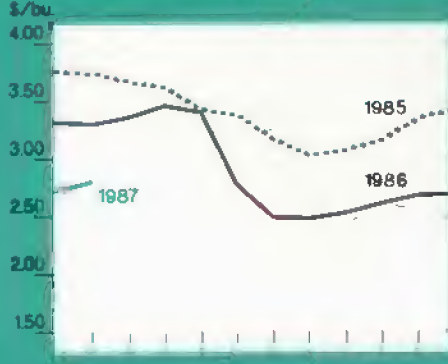
Barrows and gilts, 7 markets



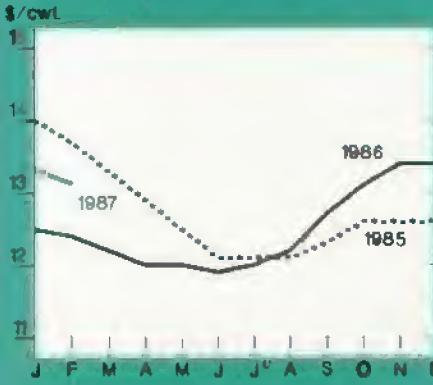
Rice (rough), SW Louisiana



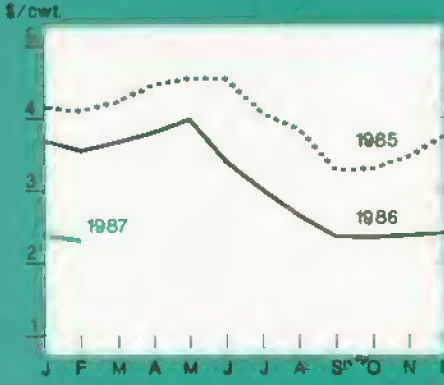
Wheat, Kansas City<sup>5</sup>



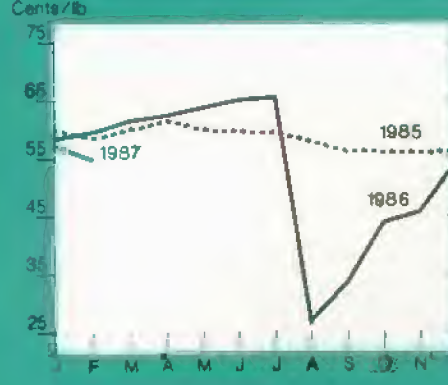
All milk



Sorghum, Kansas City



Cotton, average spot market



<sup>1</sup>600-700 lbs., medium no. 2. <sup>2</sup>Grade A Large. <sup>3</sup>No. 1 Yellow. <sup>4</sup>No. 2 Yellow. <sup>5</sup>No. 1 HRW.



800,000 bales of cotton previously in CCC stocks early this year. [Michael Hanthorn (202) 786-1840 and Frederic Surls (202) 786-1691]

#### **For further information, contact:**

Sara Schwartz, world food grains; Allen Scheinbein, domestic wheat; Janet Livezey, rice; Peter Riley, world feed grains; David Hull, domestic feed grains; Tom Bickerton, world oilseeds; Roger Hoskin, domestic oilseeds; Carolyn Whitton, world cotton; Bob Skinner, domestic cotton; Jim Schaub, peanuts. World information, (202) 786-1691; domestic (202) 786-1840.

### **HIGH-VALUE CROPS OVERVIEW**

Temperatures fell below freezing in California, Arizona, and the Mexican winter-vegetable-producing area on three consecutive nights during the third week of January. The cold slowed harvesting of broccoli, cauliflower, and lettuce in Arizona and California, and reduced supplies of green beans, peppers, squash, tomatoes, and cherry tomatoes from Mexico. The drop in Mexican supplies gave unexpected strength to Florida prices during the midwinter marketing period.

#### **Navy Bean Production Down**

Navy bean production fell to 3.5 million cwt in 1986, 44 percent below 1985. Production dropped by half in number-one-ranked Michigan, to 2.7 million cwt, because of heavy rains at harvest.

Total dry bean production inched up marginally over 1985's output. Expanded production of other types (especially pinto and Great Northern) offset the loss in Navy beans. Production of all dry beans totaled 22.9 million cwt.

The average dry bean price for 1986 strengthened 7 percent from 1985, to \$18.80 per cwt. The smaller Navy bean crop caused high prices at the end of the year. Dry bean prices likely will continue to be strong into 1987.

Because of the short crop and higher prices, Navy bean exports likely will be down in 1987. Although, other types could be substituted for Navy beans to satisfy some of the export demand.

Dry pea and lentil production rose between 1985 and 1986. USDA reported a 1986 crop of 5.5 million cwt. Demand for peas and lentils was strong in 1986, and despite lower exports and larger production, f.o.b.-warehouse prices for dry peas increased 17 percent over 1985 to \$10.03 per cwt. Helped by growth in exports, f.o.b.-warehouse prices for lentils rose 24 percent to \$32.20 per cwt.

#### **Tree Nut Production Smaller**

Production of the six major tree nuts in 1986 fell 27 percent below 1985. Almond, filbert, pecan, and walnut production fell, while macadamia nuts and pistachios rose. Growers' prices strengthened for almonds, pecans, and filberts but weakened for pistachios.

Strong demand has pushed macadamia nut prices upward, even with larger supplies. The value of 1986 edible nut crops, excluding walnuts, is \$855 million, up 54 percent from 1985.

California's 1986 almond production (250 million pounds of nut meats) fell 46 percent from 1985 and 58 percent from the record 1984 crop. However, bearing acreage continued increasing last year, so production could resume an upward trend. The sharply reduced supplies in 1985 caused strong prices. The 1986 grower average price for shelled almonds was an estimated \$2.20 a pound, compared with \$0.68 in 1985.

Pecan production, at 225 million pounds (in-shell basis), dropped 8 percent last year, mainly because the Texas crop was down sharply. The season-average grower price was an estimated 84.8 cents a pound, compared with 68 cents in 1985.

California's walnut crop was about 180,000 tons (in-shell basis) in 1986, 18 percent below 1985. Strong export demand for walnuts, and lower production, have led to higher prices and reduced domestic shipments. If the dollar continues weak, exports are expected to stay strong.

#### **U.S. Sugar Use Falls Again**

U.S. sugar deliveries totaled 7.81 million short tons in 1986, down 2.8 percent from 1985. This was the ninth consecutive year of decline. Industrial sugar use fell 4.0 percent, as deliveries declined for almost all categories. Use in the beverage and processed food sectors showed the largest drops: 21.4

and 9.8 percent, respectively. Non-industrial sugar use also fell, by 1.1 percent. However, deliveries to wholesale grocers rose slightly, and deliveries to retail grocers expanded 2 percent.

Sugar deliveries are likely to fall again in 1987 as high fructose corn syrup, crystalline fructose, and low-calorie sweeteners make further inroads, and as products are reformulated to lower their sugar content. However, the decline in sugar deliveries could be less than 2 percent. Fourth-quarter 1986 sugar deliveries were down only 1 percent from fourth-quarter 1985.

#### **Supply-Disappearance Balance Improves for Tobacco**

U.S. flue-cured tobacco supplies for the 1986/87 marketing season totaled 2.62 billion pounds, almost a 3-year stockpile. Burley tobacco supplies totaled about 1.85 billion pounds, or about a 3.2-year supply. These ratios are lower than they have been for several years. But, there are still higher than the levels considered desirable, which are about 2.45 years worth for flue-cured and 2.65 for burley.

Supply came into better balance with disappearance because of lower marketing quotas and smaller yields. Producers marketed around 663 million pounds of flue-cured from the 1986 crop, down 16 percent from 1985. Burley marketings are estimated at about 420 million pounds, or 22 percent below 1985.

A smaller share of the 1986 tobacco crop was placed under loan. Flue-cured loan volume fell to 8 percent of sales, down from 17 percent in 1985. Loan takings of burley in 1986/87 fell to less than 40 million pounds, compared with 83 million in 1985/86.

#### **For further information, contact:**

Ben Huang, fruit; Shannon Reid Hamm, vegetables; Dave Harvey, sweeteners; Verner Grise, tobacco; (202) 786-1767





## Commodity Spotlights

### Aberrations in The Cattle Cycle

A typical cattle cycle hasn't occurred since before the early 1970's, and likely won't until at least the early 1990's. Cattle numbers expanded at an unprecedented rate in the early 1970's, peaking at a record 132 million head on January 1, 1975. Herd liquidation was similarly large, finally ending in 1979 with a herd of 111 million head.

Subsequently, cattle inventories expanded until 1982, when they reached 115 million head. Inventories then began a decline which will likely not end until early 1988. The latest cattle inventory survey indicates stabilizing cattle numbers over the next couple of years and, more importantly, reduced beef supplies at moderately higher prices.

### January 1 Cattle Inventory Lowest Since 1962

The cattle inventory on January 1, 1987, was 102.2 million head, 3 percent below a year earlier and the lowest since 1962. But, beef cow numbers rose 277,000 head, or 1 percent, the first increase since 1982. Dairy cow numbers were down 6 percent, primarily because of the Dairy Termination Program.

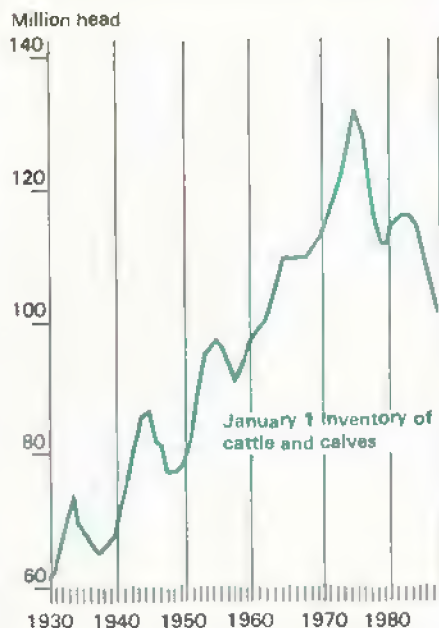
Beef cow number increases were concentrated in the 1982-84 drought-affected areas of Oklahoma (up 10 percent), Texas (2 percent), Arkansas (10 percent), and Missouri (2 percent). This 407,000-head increase outweighed liquidation of 130,000 head in other areas.

In four of the six States most affected by the July-August 1986 drought, beef cow numbers expanded. In aggregate they grew by 83,000 head: Alabama, 4 percent; Georgia, 1; South Carolina, 3; and Virginia, 11. In Maryland, beef cows fell 30 percent and in North Carolina, 8 percent.

It appears that while most producers in this 1986-drought area were selling off large numbers of calves and yearlings last summer, many producers in the area were nevertheless able to maintain or even expand their base herds. Crop residues and forage available to the reduced cattle inventory supported the herd until rains came in early fall. Good rains in early September helped reestablish pasture and provided a healthy start for fall and winter grazing.

January 1 beef herds in the North Central and Western States generally either declined or held near year-earlier levels. Producers in the North Central States reduced beef cows another 1 percent, while producers in the Northern Plains cut them 2 percent. Beef cows in the 11 Western States dropped 3 percent, although numbers in Utah rose 7 percent.

U.S. Cattle Numbers Dropping in the 1980's



### Beef Herd Expansion Due Mainly To Good Forage

Thus, beef herd expansion in 1986 reflects a rebound in forage conditions in the Central and Southern Plains, rather than a broad-based expansion. Forage supplies in these areas began to recover in 1985, when breeding decisions were being made. Grazing conditions are now very good, particularly for the reduced cattle inventory, and cow-calf producers are bringing their herds closer to carrying capacity. Lessons from the drought of 1982-84 and the summer of 1986 are likely to result in more conservative stocking rates on pastures and ranges.

The incentives for a large national expansion of the cattle inventory are not present; 1986 was the first year since 1981 that producers were able at least to cover cash costs. Some further expansion is likely among producers with cow-calf operations as their primary source of income. Some of these producers may hold back additional heifers to provide fuller use of excess forage supplies. For these producers, heifer retention represents foregone revenue, but not a cash outlay.

However, on mixed crop-livestock enterprises, where the beef herd is a supplementary enterprise, the need to generate more internal capital or pay down debts is likely to continue, and may result in some continued herd liquidation. On these mixed operations, the opportunity cost of retaining heifers for herd expansion rather than selling them is probably too high.

### Liquidated Herds Not Likely To Be Established Again

Herds that were liquidated are not likely to be reestablished, because many of these farms probably cannot generate the needed investment capital, or borrow for an enterprise which at best will provide only a small return on investment. Thus, the U.S. beef cow herd is likely to stabilize near to slightly below current levels during the coming year.

Beef heifers bred in 1985 and calving and entering the cow herd in 1986 account for the increase in beef cow numbers. The number of beef and dairy heifers calving and entering the herd increased 425,000 from a year earlier in first-half 1986, and climbed



1.1 million in the second half. Since the dairy herd was declining, this implies a proportionately larger increase in beef heifer retention.

Beef heifer retention rates on January 1, 1987 give mixed signals, but do not indicate a strong expansion as in past cycles. Beef replacement heifers were the same as a year earlier, but were down 7 percent from 2 years before. Dairy replacement heifers were down 9 percent from a year and 2 years earlier, indicating further reductions in beef supplies coming from the dairy herd for at least the next few years.

The beef replacement heifer figures indicate a possible slowdown in herd expansion in the areas which expanded in 1986, and some expansion or at least stabilization in other areas. Heifer retention figures in the 1982-84 drought area indicate a 16-percent decline in retention in Oklahoma, no change in Texas, a 3-percent increase in Missouri, and an 18-percent gain in Arkansas. Replacement heifers in the Southeast were down 3 percent. However, heifer retention increased 4 percent in the Northern Plains, 2 percent in the North Central, and was about unchanged in the West.

Even as the cattle herd begins to stabilize, herd reductions since 1982 have reduced the base for future production. Although the calf crop was up slightly in 1986 from 1985, the 1985 crop was the lowest since 1961 and were reflected in a dramatic drop in feeder cattle supplies during the 1980's. The calf crop declined each year from 1980 to 1985.

The January 1 supply of feeder cattle outside feedlots available for stocker programs or feedlot placement was 6 percent below a year earlier, the lowest for the date since the early 1960's. The calf supply was down 6 percent and yearling supplies were down 5 percent.

With large forage supplies, many of the feeder cattle are likely to remain on pasture longer and continue to enter feedlots at heavier weights. Supplies remain adequate to keep feedlot marketings near 1986 levels. Even if heifer retention increases, nonfed steer and heifer slaughter has remained fairly large and more of these cattle could be shifted into feedlots, particularly for shorter feeding periods. In addition, feeder cattle imports are expected to remain large through early spring. Most come from Mexico.

As competition increases for the reduced feeder cattle supplies prices will be bid up, and cattle may be sold somewhat earlier and thus at lighter weights than in 1986. However, forage supplies are abundant and price advances will be held down by large supplies of competing meats at lower prices. Thus, the larger placement-weight drop associated with past cycles, when more cattle go on feed at lighter weights, is unlikely. [Ronald Gustafson (202) 786-1830]

### How the Peanut Program Works

Peanuts, the nation's tenth largest cash crop, generated over \$1 billion of farm value from just 1.5 million planted acres in 1986. Americans consume about 2 billion pounds of peanuts and peanut products annually. The current peanut program differs from other commodity programs (except that for tobacco) in that it establishes a mandatory poundage quota. A look at how the peanut program works is useful because of the recent interest in production controls for other program commodities.

Peanuts have been under voluntary or mandatory programs since April 1934. From 1949 until 1977, the program consisted of mandatory acreage allotments and marketing quotas, with a price support tied to 75-90 percent of parity.

### Two-Tier Price System Set Up in 1977

In the Food and Agricultural Act of 1977, price supports were severed from the parity concept and a two-tiered price support system was established. The new system distinguishes between peanuts marketed under a national poundage quota for domestic edible use (called quota peanuts) and peanuts sold for other uses (called additional peanuts).

Quota peanuts are eligible for the higher of two price-support loan rates; additional peanuts, the lower. The Agriculture and Food Act of 1981 suspended acreage allotments and gradually reduced the poundage quota to 1.1 million tons in 1985.

To protect domestic peanut prices, the U.S. Government has since 1953 set an annual import quota of about 1,000 tons, which is quite small compared with the marketing quota. In 1980,

when a drought reduced domestic production 42 percent, the import limitation was eased and 200,000 tons were imported.

The 1985 Farm Act continues the two-tiered price supports through 1990. A peanut growers' referendum in January 1986 made the program mandatory; 97 percent were in favor of it. Because there are no acreage allotments, anyone may grow peanuts, but only producers with a share of the national poundage quota (a "farm poundage quota") may sell for domestic edible use.

The national quota must be set each year to allow for domestic edible, seed, and related uses, but it cannot be less than 1.1 million tons. For 1986 and 1987, it is 1.355 million tons, equal to about 1.06 million acres.

### Poundage Quota Allocated by State

The 1985 law apportioned the 1986 national quota among States based on their 1985 allocations, and farm poundage quotas were granted to farms that had quotas in 1985. There are two ways a grower may acquire a farm poundage quota: (1) buy or lease it from a quota owner, or (2) establish a history of producing and marketing additional peanuts.

When there is an increase in a State's quota or an allocation of farm quota forfeited by someone else, a record of growing additional peanuts in 2 of the 3 preceding years entitles a grower to a share of the quota increase. Undermarketings of quota peanuts from previous years may be carried over to raise a farm's quota in a particular year.

The national average price support loan rate for 1986-crop quota peanuts is \$607.47 per ton. The support rate for the 1987-90 crops will be the preceding year's rate adjusted for increases in the estimated cost of production (excluding land costs) during the previous year. Increases are limited to 6 percent. The 1987 quota support rate will not change from last year because the cost of producing 1986-crop quota peanuts was below that of 1985.

The price support rate for 1986-crop additional peanuts is \$149.75 per ton, and this rate will remain unchanged



for the 1987 crop. The rate for additional is set to ensure that CCC suffers no loss from selling these peanuts, taking into account the demand for peanut oil and meal, the expected prices of other vegetable oils and protein meals, and the export demand for peanuts.

Additional peanuts become available for domestic edible use if they are "bought back" after being put under CCC loan. The price of these buy-backs must cover all Government costs and cannot be less than the quota loan rate. The buy-back provision is valuable because it provides a supplemental source of peanuts should the quota supply be inadequate and because these sales offset operating costs of the peanut program.

The peanut program is administered by three regional growers' associations, which serve as agents for CCC. These associations keep records of marketings, arrange warehousing for CCC loan peanuts, and operate the price support loan program.

With the current interest in production control policies for program commodities, the performance of the mandatory peanut marketing quota is worth examining.

Each year's quota and quota support rate do not necessarily correspond to the quantity and price that domestic peanut buyers desire. On the one hand, if the quota support rate is higher than domestic consumers are willing to pay, some quota peanuts go under loan at CCC's expense, and the quantity of peanuts consumed is below the quota level.

If the quota rate is below the price consumers are willing to pay, the selling price for peanuts goes above the quota support rate and there is no incentive for quota peanuts to go under loan. The latter situation has existed in recent years.

The system has kept peanut plantings near 1.5 million acres since the early 1950's, but production has more than doubled because average yields have increased dramatically. Producers benefit from the peanut program because prices are higher than they would be otherwise. The quota support rate is currently higher than the total cost of producing peanuts.

However, peanut program benefits accrue to quota holders, whether or not they produce peanuts, because farm poundage quotas may be rented out. Quota rents vary widely among States, but they average about \$120 per ton in the Southeast.

#### **Consumers Bear Costs**

The peanut program raises consumer prices and lowers purchases of peanuts. The benefits to producers come from income transferred from peanut consumers; Government costs are small. It is difficult to say exactly what peanut prices would be in a free market, because peanuts have been under programs for so long.

One indicator is the average contract additional price—that is, the price at which U.S. producers are willing to supply peanuts to export markets. This price was \$380 per ton for the 1986 crop, compared with the quota rate of \$607.

The impact of the program on individual consumers is small because most people spend only a small part of their total budget on peanuts. Per capita consumption was 6.2 pounds (shelled basis) in 1985.

CCC expenditures for the peanut program averaged \$30 million a year in the 1960's, \$61 million in the 1970's, and \$10 million during 1982-86. Under the current program, the costs to taxpayers should be minimal; quotas now are set equal to domestic edible demand, and the loan rate for additional is substantially below the market price and also below the current crush value. Thus, few peanuts should go under loan and CCC should be able to dispose of acquired peanuts at no loss. [Jim Schaub (202) 786-1840]



## **World Agriculture and Trade**

### **FOREIGN ECONOMIC OUTLOOK & U.S. AG EXPORT PROSPECTS**

During the first half of the 1980's, weak global economic activity contributed to steady declines in U.S. agricultural exports. Since 1984, the world's economic growth has recovered somewhat, and U.S. agricultural export volume is forecast to rise in fiscal 1987.

The link between world economic growth and agricultural exports is indirect. Exports in a given year are influenced mostly by the level of agricultural production in competitor and customer countries, or by changes in agricultural policy in the United States or abroad. Economic factors are influential, however. During 1970-1979, world economic growth averaged 3.8 percent, and U.S. agricultural export volume grew 12 percent annually.

In 1987, foreign economic growth is expected to change little from the 2.6-percent expansion achieved in 1986. Compared with the 1970's, this is unimpressive. However, 1987's rate of expansion will probably be above the 2.4-percent average of 1980-86, and interest rates and inflation are also expected to compare favorably



with a few years earlier. Partially because of this improvement, U.S. export volume is expected to rise from 110 to 114 million tons in fiscal 1987, the first increase in 7 years.

#### ***Growth Has Little Effect On Developed-Country Imports***

Economic growth does not affect exports to developed countries as immediately as it does those to less developed countries. Generally, the imports of developed countries are not constrained by export earnings, borrowing, or foreign exchange availability. Nor are imports by developed countries likely to be as positively influenced by economic growth: their citizens' food consumption is little constrained by income and therefore grows slowly as incomes rise.

There are more specific reasons why exports to developed countries are only loosely tied to GNP growth. In the EC, production subsidies under the Common Agricultural Policy (CAP) have led to growing self-sufficiency in many farm products, and import demand has been dampened by the maintenance of high prices. In fiscal 1987, U.S. agricultural exports to Western Europe are forecast at \$6.8 billion, the lowest since 1973.

Japan is another example of a country with policies that limit rapid growth in world agricultural trade. Japan is the world's second biggest free-market economy and the United States' largest agricultural customer. Corn is the major U.S. farm product export to Japan.

Between February 1985 and February 1987, world corn prices fell more than 40 percent in dollars. A 40-percent strengthening of the yen over the same period meant that the import cost of corn to the Japanese fell almost 80 percent. However, Japanese consumption of corn rose only slightly because of the Government's administrative guidances on livestock production.

Similarly, world wheat prices have declined in recent years, but Japan's wheat imports have changed little. Wheat is imported in Japan by a Government agency with a monopoly on its resale. On February 5, the Japanese Government lowered the resale price of wheat for the first time since 1959.

For these reasons, the value of U.S. agricultural exports to the developed countries is expected to fall slightly in fiscal 1987, even though the developed economies are improving. Exports are forecast to drop from \$22 billion in 1981 to less than \$14 billion in 1987.

#### ***Exports to Fast-Growing East Asia Are Expanding in 1987***

Economic growth is particularly necessary to sustain U.S. agricultural exports to the newly industrializing countries of East Asia. Taiwan, South Korea, and Hong Kong have been the fastest growing economies in the world. Since 1982, they have benefited from rising U.S. imports, and more recently from Japan's increasingly uncompetitive exchange rate. Consequently, their annual exports have grown from \$64 to \$100 billion, but the exports are largely manufactured goods.

U.S. agricultural exports to industrializing East Asia have been relatively strong. Although lower prices and increased competition whittled U.S. exports to these countries from \$3.2 billion in fiscal 1982 to \$2.9 billion in 1986, this 12-percent decline is much smaller than the 37-percent decline to all countries during the same period. Furthermore, exports to the region are expected to grow in fiscal 1987, reaching \$3.1 billion, as U.S. cotton sales rebound and growing livestock inventories in East Asia boost feedstuff demand.

In contrast, other less developed countries (LDC's) have been hurt by global economic developments. Prices for non-oil commodities have weakened considerably despite improved economic growth in the countries that purchase them. By the end of 1986, the International Monetary Fund's non-fuel commodity price index had fallen to 73, from 100 in 1980.

Despite relatively sluggish demand for many commodities, production of them has continued strong as LDC's seek foreign exchange for imports and debt servicing. Many LDC's are caught in a vicious circle as poor export earnings prevent them from importing the capital goods and intermediate inputs their economies need to grow.

#### ***Debt Crisis Constrains LDC Imports***

Poor export earnings and large debts from the 1970's have forced many countries in the less developed world to

reschedule debt and seek IMF guidance to avoid default. To qualify for new loans, debtors have embarked on programs of drastic austerity since 1982, and as a consequence, imports fell as currencies were devalued, government spending was cut, and real wages declined.

As a result, U.S. agricultural exports to some countries dropped. For example, Latin American purchases fell from \$6.9 billion in fiscal 1981 to \$3.6 billion in 1986. Although Eastern Europe is not part of the less developed world, LDC debt woes, combined with political concerns, have inhibited lending there. Thus, U.S. farm exports to Eastern Europe fell from \$2.1 billion in 1981 to \$400 million by 1986.

#### ***Better Outlook for 1987 and Beyond***

Lending conditions for LDC debtors have improved lately. Interest rates in the developed countries in third-quarter 1986 fell to their lowest since 1978, and the weaker dollar has also made debt repayment easier (debts are denominated in dollars). U.S. agricultural exports to Latin America are expected to grow by \$300 million in fiscal 1987. Improved finances are allowing Mexico to rebuild grain and oilseed stocks. East European countries are rebuilding livestock inventories, boosting feedstuff demand and, consequently, U.S. sales there.

However, real incomes in Latin America and many other debtor nations remain well below pre-debt-crisis levels, and foreign exchange availability remains a limiting factor for LDC imports.

In Nigeria, for example, U.S. agricultural exports are expected to continue dropping in fiscal 1987. In order to cope with a vastly reduced ability to import, Nigeria has added wheat to a list of banned imports that already included corn and rice.

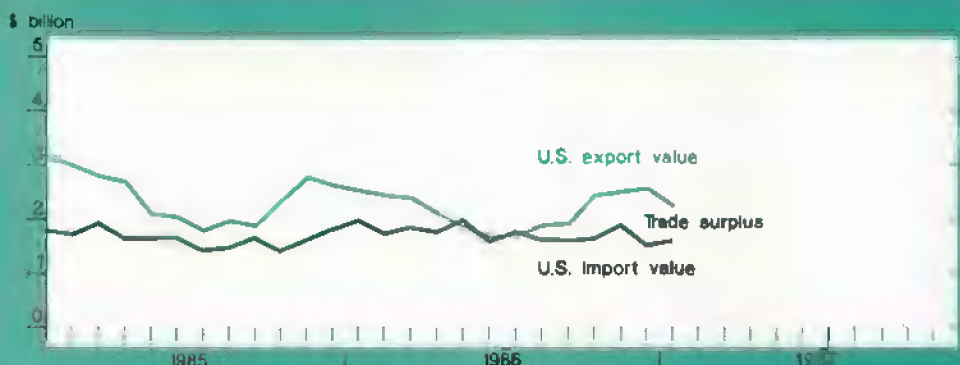
#### ***Debtor LDC's May Enjoy Easier Borrowing After 1987***

Beyond 1987, prospects for growth in debtor LDC's are better, as policies which lead to austerity are slowly relaxed. The cost of Mexico's borrowing over the last 5 years illustrates this point. In 1982, the interest rate premium on Mexico's rescheduled borrowing was 2-1/2 points above London interbank rates. By 1984, the premium

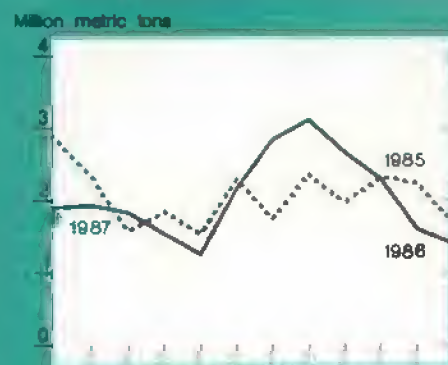


# U.S. Agricultural Trade Indicators

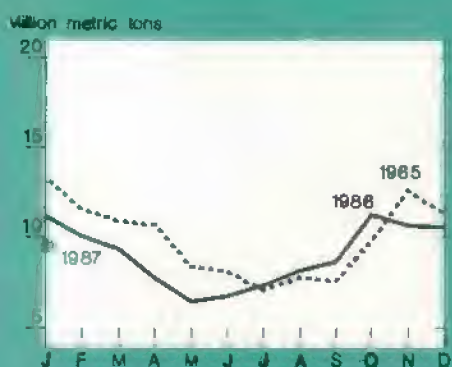
## U.S. agricultural trade balance



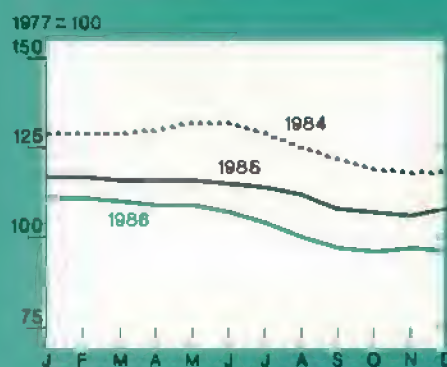
## U.S. wheat<sup>1</sup> exports



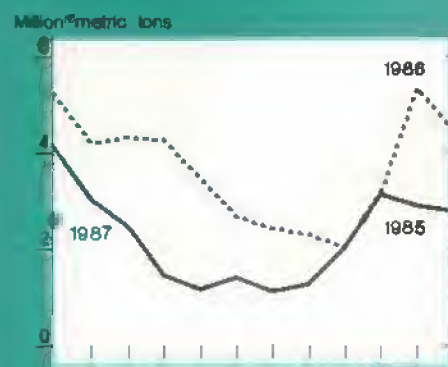
## Export volume



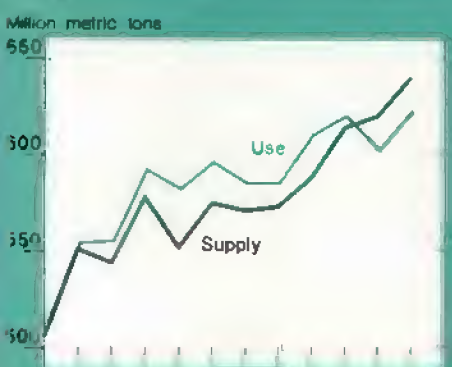
## Index of export prices



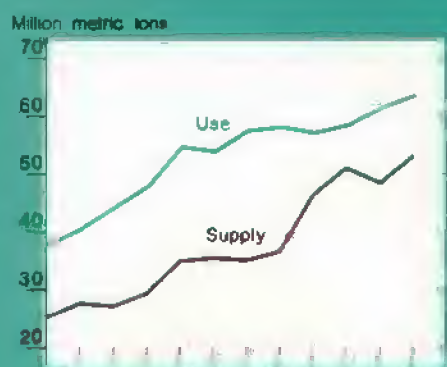
## U.S. corn exports



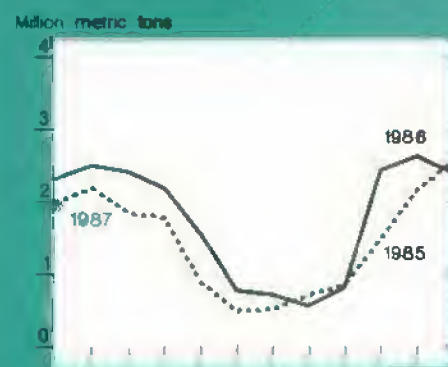
## Foreign supply & use of coarse grains



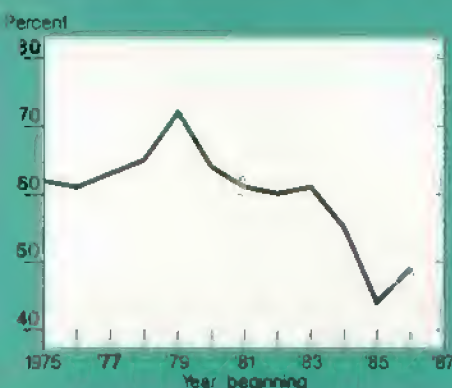
## Foreign supply & use of soybeans



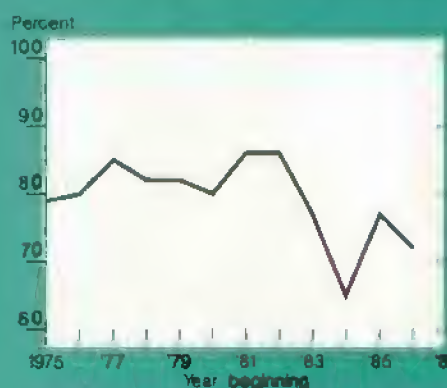
## U.S. soybean exports



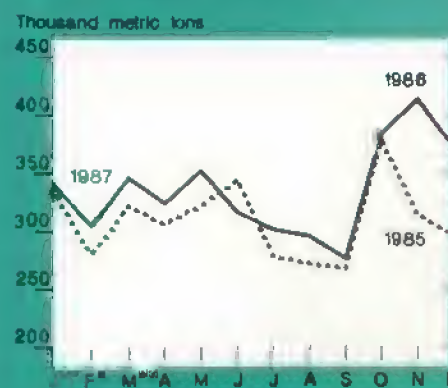
## U.S. share of world coarse grains exports<sup>1,2</sup>



## U.S. share of world soybean exports



## U.S. fruit & vegetable exports<sup>3</sup>



<sup>1</sup> Excluding intra-EC trade. <sup>2</sup> October-September years. <sup>3</sup> includes fruit juices.

Note: Wheat, corn, soybean, and cotton exchange rates and export unit values are now included in the U.S. Agricultural Trade tables at the back of this issue.



had fallen to 1-1/2 points, and a subsequent agreement in 1985 specified a maximum 1-1/4 point premium.

In 1986, a 50-percent drop in petroleum prices undercut Mexico's ability to meet its previous agreements. Subsequently, its loans were again rescheduled. But instead of having to pay higher premiums, Mexico's interest premium was reduced to .80 of a percent. Also, a groundbreaking agreement with the International Monetary Fund provided for contingency funding in the event of further erosion of Mexico's oil prices, Government revenues, and economic growth.

This agreement has been widely described as an example of the "growth-oriented" strategy endorsed by U.S. Treasury Secretary Baker in October 1985. Under the Baker Plan, debtors that successfully pursue economic reforms will be rewarded with voluntary bank lending in excess of their rescheduling needs.

#### ***Developed Economies' Growth Key to LDC Import Expansion***

Economic expansion in developed countries is also needed to sustain growth in U.S. agricultural exports to the LDC's.

Between 1981 and 1986, a growing U.S. trade deficit assisted foreign economic growth. But, with the trade deficit projected to shrink in 1987, the LDCs will need to expand exports to other countries to continue growing. Germany and Japan are the largest developed economies after the United States, and both are expected to rely more on domestic-led growth in the future, and increase their imports. However, the transition from export-led growth has been slow. Germany's tax cut remains scheduled for 1988, and Japan's Government spending offers little prospect of increasing growth.

While stronger in 1987, expected growth in the developed countries will be insufficient to significantly reduce unemployment; unemployment in the Organization for Economic Cooperation and Development is expected to remain above 8 percent, as it has since 1984. Without strong and open economies in the developed world, prospects for LDC growth will remain weak, limiting the expansion of U.S. agricultural exports. [Steve MacDonald (202) 786-1621]



## **Transportation**

### **OUTLOOK FOR 1987**

Ocean, rail, and barge excess capacity is declining in 1987, while current estimates of grain consumption and exports suggest that the demand for transportation will be larger than in 1986. Enough ships, barges, and rail cars will be available to meet the marketing needs of food, fiber, grain, and oilseed shippers. Consequently, there is little prospect for rate increases.

#### ***Ocean Freight Rates Down***

U.S. grain exports for 1986/87 are now estimated to be up about 7.6 million metric tons (12 percent) from 1985/86. World grain trade, however, is estimated to rise 4 percent.

By mid-1986 the world's merchant fleet had declined 3 percent from a year earlier. This modest reduction is not expected to raise 1987 ocean freight rates. Throughout 1986, ocean freight rates for grain declined and thus far 1987 rates have averaged below 1986.

Grain exporters will, however, experience slightly higher costs. A fee of 4 cents for each dollar of declared value was imposed beginning April 1 on all imports and exports passing through U.S. ports. In 1986, U.S. exports of grains and feeds were valued at \$8.6 billion and under the new user charge system would have incurred fees totaling \$34.4 million.

Shippers using the St. Lawrence Seaway will initially pay both Seaway tolls and the port user fee. But the U.S. portion of the tolls (currently 27 percent) will be rebated. The exact process of repayment has not yet been established.

The slight upturn in U.S. grain exports is likely to increase demand for both rail and barge transportation. Barge shipments of grain are closely related to export volume. However, this year's slight increase in export volume is not expected to offset the barge surplus. According to industry sources, approximately 2,000 covered hopper barges have been underutilized in recent years. Hence, barge rates are likely to show their usual volatility, but are not expected to rise significantly above 1986.

The Army Corps of Engineers has announced the Peoria and LaGrange (Illinois River) locks will be closed for repairs from July 13 to September 11. This could cause problems for shippers along this 78-mile stretch and depress corn prices in northern Illinois. However, no significant impacts on shipments to the Southeast or on U.S. exports are expected. Less than 20 percent of the Illinois River's annual volume normally moves during July-August.

Although the fleet of jumbo covered hopper cars has shrunk, the greater demand for rail transportation of grain will still not take up the surplus capacity. After more than a decade of growth, the hopper car fleet contracted about 1 percent in 1986, as both railroads and private owners retired aging equipment.

Even with the decline, the jumbo fleet is now 27 percent larger than in 1980, when railroads loaded (on average) 29,200 cars per week, 17 percent more than in 1986. Therefore, even though grain traffic has grown 6 percent since 1985, the Bureau of Labor Statistics' rail freight rate index for grain shows that rates last year increased an average of less than 1 percent.

#### ***Rail Costs Climbing***

The Association of American Railroads (AAR) has estimated that rising labor costs pushed total rail costs up 2.6 percent in the first quarter of this year. Nevertheless, railroads have not sought a rate increase. Under the Staggers Act of 1980, railroads may apply for rate hikes to offset inflation when the Railroad Cost Adjustment



Factor (RCAF), computed by the AAR, shows that cost increases can be expected over the following quarter. The Interstate Commerce Commission has ruled that errors in previous RCAF's have excessively increased rates, and further increases will be denied until the backlog of excess revenue has been worked off.

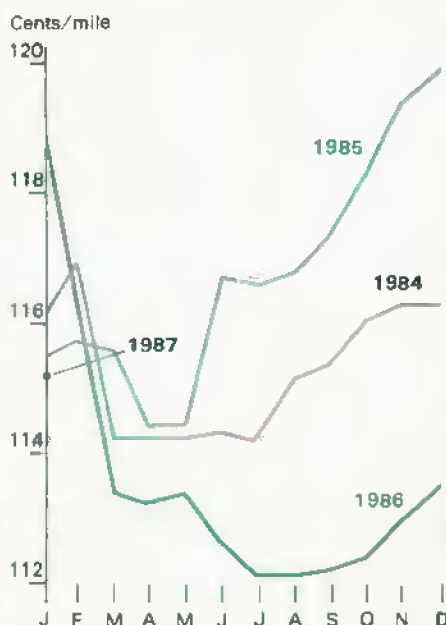
### TOFC Rates Will Be Flat

In addition to transporting grain, railroads distribute processed foods and fresh fruits and vegetables. Much of this volume is carried in truck semi-trailers that are loaded onto special rail flat cars. In 1986, about 6 percent of all fresh fruits and vegetables were shipped by TOFC, about 18 million cwt more than the year before.

The number of cars and trailers loaded as TOFC's has grown steadily since 1980, and modest growth is again expected for 1987. In most instances, each special flat car can accommodate 2 semi-trailers or vans. A few flat cars can be loaded with 4 vans, providing double-stack service.

On average in 1986, only 1.7 vans were loaded onto each TOFC car. This suggests that use could grow at least 18 percent with no increase in equipment. Thus, TOFC rates should remain at or below 1986. Many TOFC's make the journey to western

### Fleet Truck Operating Costs Dropping



ports empty, providing especially attractive rates for some, such as shippers of cotton from the Southwest to Seattle for export.

Last year, a shrinking boxcar fleet was expected to result in a car shortage for cotton shippers in the Southwest. This shortage did not materialize, though; only 8.4 million bales were shipped, rather than the 11.8 million anticipated.

This year, marketings are forecast at 13.8 million bales, and the boxcar fleet has declined an additional 15 percent. Consequently, car shortages are again expected, especially in Texas, where much of the crop is transported by rail.

### Truckers' Costs Fell in 1986

Costs of operating trucks fell during most of 1986, while semi-trailers were added to the fleet at a near-record rate. Although operating costs have risen in the first 2 months of 1987, rates have increased only slightly. This boost is likely due as much to bad weather as to higher operating costs. Sufficient trucking service to shippers of both processed and fresh foods, at rates only slightly above 1986, is in prospect for the remainder of the year.

### Rail Car Fleet Inventory, January 1

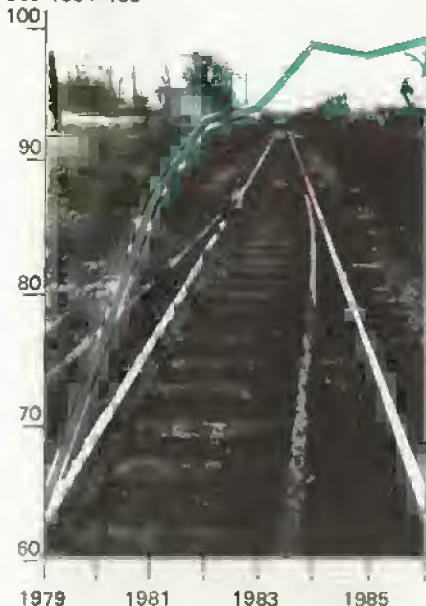
Year	Box cars	Jumbo covered hopper cars	Refrig. cars
--- 1,000 cars ---			
1984	335.8	233.6	63.7
1985	308.2	238.2	58.6
1986	277.4	238.0	55.1
1987	237.0	236.8	56.8
Percent			
Change, 1984-87	-29	+1	-14

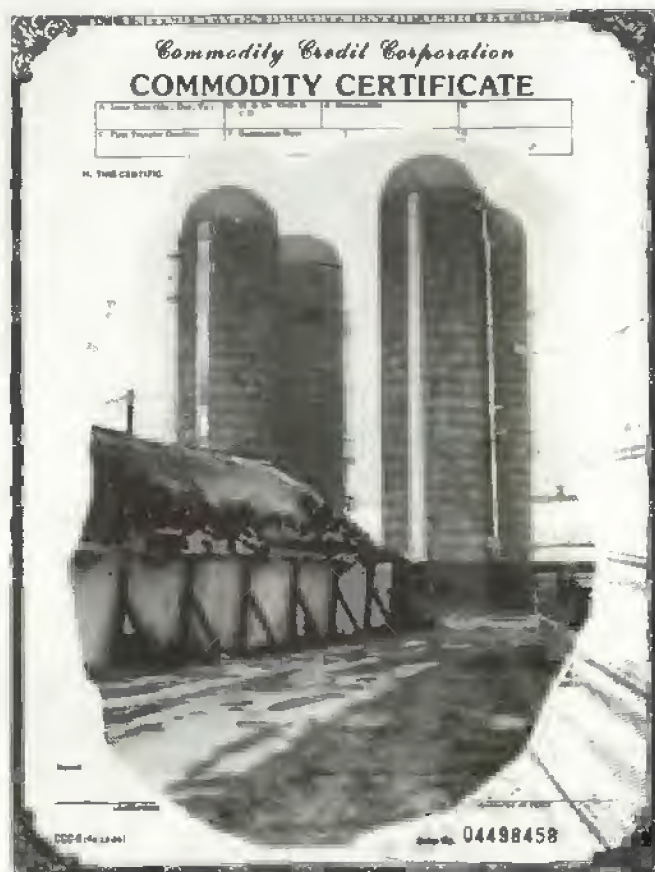
Truckers' overhead, especially insurance and licenses, rose 7-12 percent during 1986, but these increases were offset by declining interest rates, a 24-percent drop in fuel expenses, and lesser declines in tires and miscellaneous costs. Truckers' total average 1986 costs were down nearly 3 percent from 1985. However, increased demand by fresh fruit and vegetable shippers caused most rates for these commodities to average somewhat above 1985. Also, when costs rose in 1985, truckers did not raise rates. Therefore, they were able to avoid reducing rates in 1986.

Nearly 19,000 refrigerated trailers and semi-trailers joined the fleet in 1986. Grain hauling equipment was added at a rate higher than in 1985, and only 6 percent below 1984. Purchase costs of these vehicles were essentially unchanged from the prior year. [T.Q. Hutchinson (202) 786-1840]

### Rail Rates for Grain Have Been Level Since 1984

Dec 1984 100





## Generic Certificates Help Meet Goals of 1985 Farm Act

Primary to the Food Security Act of 1985 (FSA) is the goal of developing a more market oriented agricultural sector, focused on pricing products more competitively in world markets. With competitive prices, more U.S. agricultural goods will be purchased here and abroad.

The FSA allows for lower loan rates through the 1990/91 crop year. Further, the Secretary of Agriculture has discretion to implement marketing loans for wheat, feed grains, and soybeans, and is required to implement them for rice and cotton. In addition, an Export Enhancement Program (EEP) requires that CCC stocks be made available to help maintain and expand export markets.

The FSA also authorizes USDA to issue generic certificates in lieu of the cash payments due program participants and merchants of agricultural products under provisions of several programs. The certificates can be used to acquire stocks held as collateral on Government loans or owned by the CCC. These stocks otherwise would be unavailable to the market.

Farmers receive generic certificates as payment for participation in numerous Government programs: acreage reduction, paid land diversion, the Conservation Reserve, rice marketing loans, disaster programs, and emergency feed

programs. Merchants of grain and other commodities are issued certificates through the EEP and the Targeted Export Assistance (TEA) program. Ethanol producers have also received certificates.

Certificates have fixed dollar face values and an 8-month life beginning at the end of the month of issuance. They are generic because they can be exchanged for many program commodities held by or pledged as collateral to the CCC—wheat, rice, rye, corn, grain sorghum, barley, oats, soybeans, cotton, honey, and dairy products.

Certificates can be used in three ways:

- An individual farmer can reacquire commodities pledged as collateral to the Government under the 9-month loan, extended 9-month loan, Farmer-Owned Reserve, or Special Producer Storage Loan Program. Although certificates may also be exchanged for commodities owned by CCC, the large minimum quantity required (usually about 10 boxcars) effectively limits these exchanges to merchants; any holders not meeting the minimum are allowed one less-than-minimum transaction per month.
- Certificates can be sold or transferred to others. An active market has developed for them.
- Farmers who are original owners of certificates can return them to the CCC for cash at face value during the sixth through eighth month of the certificates' life. However, certificates issued in conjunction with 1986 programs are subject to a 4.3-percent Gramm-Rudman-Hollings (GRH) reduction. Consequently, very few certificates have been cashed in, since gains from alternative uses are usually higher.

Advantages of using certificates include ready access to most program commodities, easy sale or transfer of certificates to others, and the certificates' fixed dollar face value. Holders of certificates are protected when commodity prices decline, because the amount of commodity for which certificates can be exchanged increases.

Certificates have been used primarily by farmers to reacquire commodities pledged as collateral under the loan programs. Farmers benefit from the use of certificates in several ways:

- When the posted county price for a commodity is below its loan rate, as has been the case for corn in most locations during 1986/87, farmers can exchange certificates for the commodity under loan at the lower price.
- When certificates are exchanged for commodities under loan, any interest expenses that farmers might have incurred are forgone. If the acquired commodity is sold, storage costs and additional interest expenses that would have accrued during the remaining life of the loan are also eliminated.
- Prior to harvest, farmers can free storage capacity by exchanging certificates for old-crop stocks under loan and then selling the commodity.
- If the posted county price in a given county is below the cash price, there are opportunities for arbitrage—exchanging and selling simultaneously to take advantage of the price differences.



For merchants, the advantages of using certificates include the following:

- Certificates issued through the Export Enhancement and the Targeted Export Assistance programs allow U.S. merchants to discount prices and compete more effectively with other exporting countries.
- Like farmers, merchants have arbitrage opportunities if the CCC redemption price at a given location is below the cash price.
- Certificates are cheaper to hold than commodities, so marketing costs for storage, handling, and transportation are reduced. For example, a merchant can acquire certificates anywhere in the United States and exchange them for available commodities at most CCC storage locations. The merchant incurs the costs of acquiring the certificates (if not EEP or TEA issuances), transferring them to the point of exchange, and putting the crops into storage. But other costs in effect are paid by CCC.

Because of these advantages, generic certificates are selling at a premium over their face value. Premiums have been about 6 to 10 percent of par values since early January, down significantly from a peak of 25 to 30 percent in October, and below the overall average of 10 to 15 percent.

## ISSUANCES AND EXCHANGES

From April through December 1986, CCC issued \$3.85 billion in generic certificates. About \$3.61 billion went to farmers as deficiency and diversion payments, 49 percent for wheat and 34 percent for corn. The remaining \$238 million were issued through the other commodity programs.

The bulk of certificates received by farmers in 1986 were issued during three periods: \$1.35 billion in April as 1986 advance deficiency and diversion payments, \$1 billion in August and September as 1986 advance deficiency pay-

### Generic Certificate Issuances

Issuance	\$ million
<b>ACTUAL (April-December 1986)</b>	
Deficiency & diversion payments	3,609
Other	238
Total	3,847
<b>POTENTIAL (January-August 1987)*</b>	
1986 final deficiency payments for corn and grain sorghum	300
1987 advance deficiency payments	2,300
1987 advance diversion payments	500
1987 Cons. Reserve Program	
corn bonus payments	340
Export Enhance and Targeted Export Assistance Programs	500
Disaster payments	400
Total	4,340

\*An additional \$2.4 billion of certificates could be issued through August 1987, if 50 percent of both the 1986 final feed grain Findley payments and 1987 final feedgrain paid diversion payments are made in certificates, and if the Findley payments are moved up from the current issuance date of October 1987.

### Potential Generic Certificate Exchanges

Commodity and posted county price	Certificate exchanges in:					
	March-May 1987*			June-Aug. 1987*		
	65/25	70/20	75/15	85/25	70/20	75/15
Million bushels						
<b>Corn</b>						
\$1.20	1,209	1,302	1,395	1,081	1,164	1,247
\$1.50	867	1,042	1,116	864	931	997
<b>Wheat</b>						
\$2.20	254	203	152	227	181	136
\$2.50	223	179	134	199	160	120

\*Ratios refer to the potential shares of certificates exchanged for corn and wheat, respectively. For instance, 65/25 means that 65 percent of certificates are exchanged for corn and 25 percent for wheat.

### Cumulative Generic Certificate Exchanges as of February 18, 1987

Commodity	CCC Inventory	Producer loans	Total
<b>Feed grains</b>			
<b>Wheat</b>			
Volume (mil bu)	52.9	202.0	254.8
Value (\$ mil)	125.2	478.6	603.8
<b>Rice</b>			
Volume (mil cwt)	25.2	0.02	25.2
Value (\$ mil)	83.5	0.06	83.5
<b>Feed grains</b>			
<b>Corn</b>			
Volume (mil bu)	79.7	1,267.6	1,347.3
Value (\$ mil)	130.2	2,069.7	2,199.9
<b>Grain sorghum</b>			
Volume (mil bu)	22.5	69.1	91.7
Value (\$ mil)	40.3	123.7	164.0
<b>Barley</b>			
Volume (mil bu)	26.0	69.4	95.4
Value (\$ mil)	31.7	84.9	116.6
<b>Rye, oats, and soybeans</b>			
Value (\$ mil)	6.0	16.7	22.7
<b>Total value (\$ mil)*</b>	<b>416.9</b>	<b>2,773.6</b>	<b>3,190.5</b>

\*Not included are about 4.67 million bales of cotton exchanged from 8-month loan positions for which no corresponding values are available. Other program commodities, for which few or no exchanges have been made, include honey, nonfat dry milk, butter, and cheese.

Source: Agricultural Stabilization and Conservation Service. USDA.

ments, and \$1.1 billion in December as 1986 final deficiency payments for wheat, barley, and oats. The April certificates have expired, the August-September certificates will expire by the end of May 1987, and the December certificates will be good until the end of August.

Through March 4, 1987, cumulative certificate exchanges totaled 1.35 billion bushels for corn and 255 million bushels for wheat. Virtually all the corn acquired with certificates

## Generic Certificate Exchanges Rising

Billion bushels

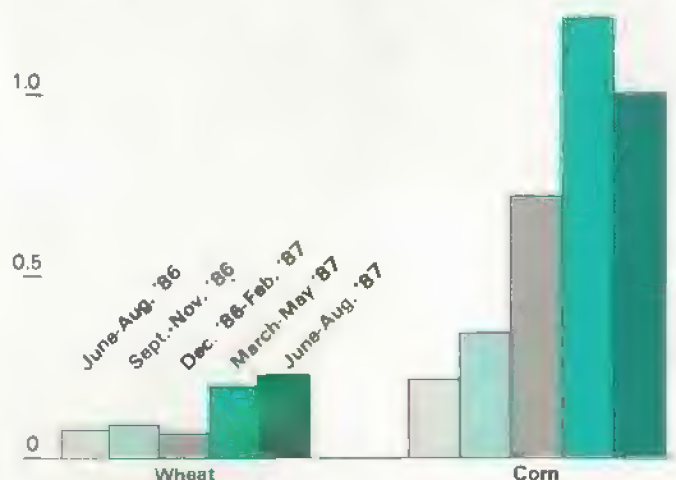
1.5

1.0

0.5

0

March-August 1987 forecast.



(94 percent) has come from stocks held as collateral for price support loans, rather than from CCC inventory. This indicates that nearly all exchanges for corn have been made by farmers using certificates issued directly to them or purchased from others.

For wheat, 79 percent of total exchanges have come from loans, with a larger portion than for corn coming from the Farmer-Owned Reserve and Special Producer Storage Loan Program.

At the beginning of January, \$1.8 billion worth of generic certificates were outstanding. For the rest of the corn marketing year (January-August), CCC has authority to issue an additional \$4.3 billion, of which about \$3.5 billion were issued during January-March. Advance deficiency and diversion payments for 1987 will account for about \$2.8 billion of the \$4.3 billion.

The remaining authorized issuances include about \$300 million for 1986 final regular deficiency payments to farmers for corn and grain sorghum, and \$740 million for disaster and Conservation Reserve Program corn bonus payments. Also, \$500 million are to be issued to merchants through the EEP and the TEA program. Consequently, about \$6.1 billion of certificates could be available for exchange during January-August 1987.

It is possible that further certificate issuances will be authorized through the summer. Certificates could be issued as part of 1986 final Findley payments<sup>1</sup> for feed grains (if moved up from the current issue date of October 1987) and as 1987 final land diversion payments for feed grains. If 50 percent<sup>2</sup> of each of these program payments were made in certificates, an additional \$2.38 billion of certificates could be issued through August, bringing the total available to \$8.5 billion.

<sup>1</sup> Payments resulting from lowering the 1986 loan rate for corn from \$2.40 a bushel to \$1.92. <sup>2</sup> Fifty percent of the final basic deficiency payments were made with certificates.

## What Influences Generic Certificate Prices?

Since generic certificates were first issued last spring, there has been an active market for them. Trading was particularly heavy in October, when prices for certificates rose as high as 128 percent of face value. In December, the Merchants' Exchange in St. Louis began organized certificate trading. Since July 1986, premiums have averaged 10 percent of face value, but they have ranged from 28 percent in October to 2 percent in late December. Currently, certificates are selling at 106-110 percent of their face value.

What are the economic forces affecting premiums? The price of certificates is determined by their potential redemption value. Certificates' exchange values are based on daily posted county prices (PCP's), reflecting local market conditions. For the most part, differences between the PCP and the local market price have been small. But, on those occasions when local prices in a given county exceed the PCP by a large margin, certificate holders have opportunities to profit by redeeming the commodity at the PCP and then selling it at the local price.

## Arbitrage Opportunities Affect Premiums

For example, if the PCP for corn were \$1.40 and the actual market price were \$1.45 per bushel, a holder of a certificate with a face value of \$1,000 could redeem it for 714 bushels of corn (\$1,000 divided by \$1.40). Selling these bushels at \$1.45 per bushel would net the holder \$35.71 over the original value of the certificate. Thus, holders would not sell their certificates unless they received at least a 3.571-percent premium over the face value of the certificate. The more the local price exceeds the PCP, the more the certificate is worth to the holder.

There has been a far greater incentive to redeem certificates for crops currently under loan. If the certificate exchange occurs at the time the crop is placed under loan ("quick PIK"), producers are able to receive the loan rate for their crop without having to pay for storage over the life of the loan. The value of the certificate above face value is determined by the relative value of the storage cost savings to the PCP.

To illustrate, assume that the local corn price is equal to the PCP of \$1.40 per bushel and it costs producers 20 cents a bushel to store corn as loan collateral for 9 months. A

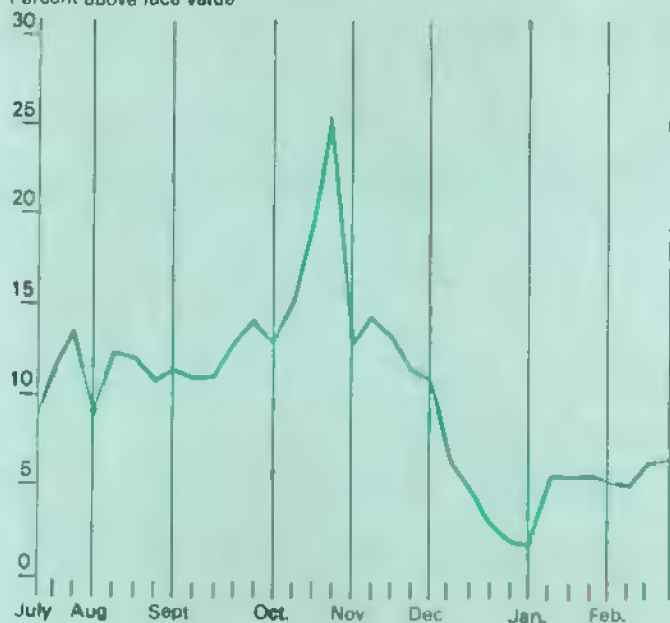
Estimates of how much wheat and corn will be exchanged with the \$6.1 billion of certificates already authorized can be made, given the following assumptions:

- Weather is normal.
- All issued certificates are exchanged rather than returned to CCC for cash.
- Each certificate issuance is exchanged at a constant rate over its 8-month life. This implies that total exchanges will rise sharply during the spring and remain higher in summer, before tapering off as the 8-month life begins to end for certificates issued from December through March.
- The share of certificates used to acquire corn is assumed to fall from 80 percent in December-February to 70 percent in March-May, reflecting a tapering off in corn loan placements. Wheat's share of exchanges



## Premiums Paid for Generic Certificates Peaked Last Fall

Percent above face value



certificate valued at \$1,000 could be exchanged at the same time the loan is taken out for 714 bushels of corn. A storage-cost saving of \$143 (714 bushels times 20 cents per bushel) results.

Thus, the \$1,000 certificate is worth \$1,143 to the producer who wishes to redeem his loan, 14.3 percent over par value. If certificates are trading at premiums greater than this amount, producers could earn more by selling their certificates and keeping the crops under loan. If certificates are selling at premiums less than 14.3 percent, though, producers would gain by buying additional certificates to exchange for the remainder of their crops under loan.

While certificates are generic, returns from exchanging certificates are greatest for those commodities whose potential storage cost savings are highest relative to cash prices. Storage costs per bushel are relatively similar for wheat,

could rise from 11 percent in December-February to 20 percent during March-May, as some farmers exchange certificates for old-crop wheat under loan to free storage capacity. The ratio of corn to wheat exchanges is assumed to shift further to 65/25 during June-August as farmers begin to place 1987/88-crop wheat under loan.

Individual farmers have the highest incentive to exchange certificates at harvest, selling the commodity to eliminate storage costs.

But, not all farmers can do this at the same time since short-run demand could not absorb the full increase in free supply. This, combined with farmers' cash flow needs and the 8-month certificate life, lead to the assumption of constant rate of exchange.

feed grains, and soybeans, but corn is typically the lowest priced per bushel. Also, the more bushels that can be acquired for a fixed value of certificates, the greater the storage savings. This tends to favor the lower priced commodities such as corn.

Thus, persons wishing to acquire corn to exchange for crops under loan are usually willing to pay the highest premiums for the certificates. For example, in the fall when storage cost savings were highest for corn, about 65 percent of certificate exchanges were for corn. However, when storage cost savings are potentially higher for other crops (wheat during the summer harvest, for example), premiums usually reflect the storage cost savings possible on those crops.

As the crop year progresses, premiums probably will fall because of the decline in potential storage savings on crops under loan. This explains why premiums for certificates have declined from their peak at harvest last fall.

### Availability, Expiration Time Are Also Factors

Additional factors affecting certificate premiums include the availability of certificates and the amount of time left before a certificate expires. In 1987, most certificates will be issued as advance deficiency payments in the spring and as final deficiency payments in the late fall. Issuance of certificates just prior to and at planting this spring, when the value of the premiums will be relatively small, may encourage some holders to keep certificates until next fall. Then the demand to exchange certificates for new crops being placed under loan may force premiums up.

Finally, producers who wish to use certificates to redeem crops under loan in the fall may not be willing to pay as much for certificates issued in the preceding spring, because their remaining life is short. A certificate that is about to expire offers the holder little flexibility in choosing when to redeem crops under loan. The decline in premiums in late December reflected the fact that buyers preferred to wait for the new certificates in January, rather than purchase certificates which were issued in April 1986 and set to expire on December 31.

However, certificate prices will rarely fall below the face value, since producers may exchange them at face value for cash during the sixth through the eighth month of the life of the certificates (or, as in 1986, at 95.7 percent of face value because of the Gramm-Rudman-Hollings reduction). [Joe Glauber (202) 786-1840]

If all these assumptions prove valid, between 179 million bushels of wheat (at a \$2.50 posted county price) and 203 million bushels (at \$2.20) could be exchanged with certificates in the spring quarter. And for corn, exchanges this spring and summer could range from 1.91 billion bushels (at \$1.50) to 2.38 billion (at \$1.20).

Given these exchanges, plus December 1 free stocks, minus 1986-crop loan placements anticipated after December 1, free supplies for the remainder of 1986/87 could total 5.1 to 5.6 billion bushels for corn, and about 823 to 847 million bushels for wheat. With total disappearance expected to be 4.7 billion bushels for corn during December 1986-August

1987 and 795 million for wheat during December 1986-May 1987, certificate exchanges will likely push free supplies well above anticipated needs, particularly for corn, and forestall any seasonal upturn in prices.

## EFFECTS ON MARKETS

Certificates free stocks that would otherwise have been unavailable to the market at current prices. The largest impact occurs when market-clearing prices are below loan rates.

Certificates allow access to stocks under loan, effectively circumventing the marketing barrier erected by the loan programs. A "quick-PIK" exchange means placing crops under loan and then immediately repaying the loan with certificates. Some quick-PIK's represent placements and acquisitions of commodities that otherwise would not have been placed under loan. However, many quick-PIK exchanges do release stocks that would have been placed and left under loan, especially when prices are below the loan rate minus 9 months of storage costs.

When market prices are above the loan rate, the advantages of using certificates are reduced. But the need for certificates to help keep sufficient supplies on the market also is less, since redemptions from loans are more likely. Because of this characteristic, certificates tend to be used for those commodities with the largest supply/demand imbalance.

Generic certificates also affect markets before they are exchanged, because outstanding certificates represent a pool of potential free stocks that can be acquired readily.

To illustrate how generic certificates affect markets, three assumptions were made. First, the short-term price elasticity of demand was assumed to be -0.3, meaning that a 1-percent decline in prices causes a 0.3-percent rise in total demand in the short run. This elasticity is derived from a quarterly model of U.S. agriculture and a recent survey of export demand responses.<sup>3</sup>

Second, to incorporate a substitution effect between free stocks and nonfree stocks, it was assumed that free stocks rise by 50 to 80 bushels for each 100 bushels that are exchanged but not absorbed by short-run market demands, after adjusting for quick-PIK exchanges that otherwise would not have been placed under loan.

Other than the quick-PIK exchanges for commodities that otherwise would not have been placed under loan, when generic certificates are exchanged for either loan or CCC

Estimated Historical Effects of Generic Certificates on Farm Prices

Period	Effects on prices received by farmers for:	
	Wheat	Corn
Cents per bushel		
June-Aug. 1986	0 to -5	-35 to -45
Sept.-Nov. 1986	-5 to -10	0 to +5
Dec. 1986-Feb. 1987	0 to -5	-10 to -20

stocks, these crops become additional free supplies. As free supplies increase, prices fall and use rises. However, the increase in use generally is not as large as the amount exchanged, so the difference is stored. Initially, free stocks rise. But, larger free stocks in turn affect nonfree stocks by affecting the value of crops eligible for loan.

Although certificate-exchanged supplies cannot be placed under loan again, a substitution between free and nonfree stocks can happen in two ways. First, eligible crops that might not have gone under loan now may be placed under loan. Second, because of lower prices, stocks under CCC loan that would have been redeemed and converted to free stocks may instead be left under loan, defaulted on, or placed in the Farmer-Owned Reserve, if that option is available.

Finally, farm-level prices were assumed to be responsive to ratios of free stocks to use, and equations were used that measure those relationships. With the assumptions and equations mentioned above, analysis suggests that certificates have their greatest effects on markets late in the crop years.

Last summer, for example, certificates were exchanged for 215 million bushels of corn. None were quick-PIK exchanges because loan placements for corn were closed. It is estimated that outstanding certificates could have been exchanged for an additional 488 million bushels. Use in the June-August 1986 quarter was 957 million bushels. Ending free stocks were 194 million bushels, although the extended Farmer-Owned Reserve rollover likely left free stocks at 225 to 250 million bushels.

Further, if 50 to 80 percent of the outstanding certificates are considered as a pool of free stocks, the effective level of free stocks was 460 to 630 million bushels. The resulting effective free-stocks-to-use ratio—between 0.48 and 0.66—led to average farm-level corn prices of \$2.02 a bushel.

Without certificates, free stocks would have been less than 225 to 250 million bushels, because they were raised to that level after certificate exchanges. If the assumptions made above are valid, free stocks would have been very tight without certificates, between 125 and 150 million bushels. Therefore, without certificates, the ratio of free stocks to use would have been about 0.14 to 0.17.

At the lower free-stocks-to-use ratios likely without certificates, corn prices during June-August 1986 would have been 35 to 45 cents a bushel higher, and use in the quarter would have been 40 to 50 million bushels lower. These results imply that corn prices would have been 8 to 18 cents a bushel below the \$2.55 loan rate. This in turn suggests

<sup>3</sup> For more information regarding the quarterly model, see Paul C. Westcott and David B. Hull, *A Quarterly Forecasting Model for U.S. Agriculture—Subsector Models for Corn, Wheat, Soybeans, Cattle, Hogs, and Poultry*, Technical Bulletin 1700, USDA, ERS, May 1985. Export demand responses are reported in Walter H. Gardiner and Praveen M. Dixit, *Price Elasticity of Export Demand: Concepts and Estimates*, Foreign Agricultural Economic Report 228, USDA, ERS, February 1987.



## Comparing Uses of Certificates

Farmers can use certificates in a number of ways. Assume a farmer has a corn base of 100 acres. With the 17.5-percent set-aside requirement and 2.5-percent paid land diversion in effect for 1986, the farmer harvests 80 acres, on which the harvested yield is assumed to be 125 bushels an acre. Program benefits are based on an average farm program payment yield of 107 bushels an acre. Following harvest in October 1986, the farmer places corn under loan and uses certificates that were issued in April and August as partial advance deficiency and diversion payments.

How a farmer uses certificates depends on market conditions. For this comparison, assume:

- Certificates are sold at 10 percent above face value.
- The posted county price at the time of placement is \$1.40 a bushel, the same as the October average farm price reported by USDA.
- The effective loan rate is \$1.84 a bushel.
- The farmer was issued certificates valued at \$1,959 prior to October. This reflects the sum of the partial advance deficiency and paid diversion payments that were made in certificates.
- A storage cost of 20 cents a bushel is incurred for corn placed under loan for the full 9 months of the loan.
- In the following three scenarios, the farmer receives \$18,400 for placing 10,000 bushels of corn under loan.

**Scenario 1.**—The farmer does a quick-PIK exchange, immediately reacquiring 1,399 bushels of the 10,000 placed under loan. This corn is sold for \$1,959, since the farm and posted county prices are identical. Storage costs for the 8,601 bushels remaining under loan are \$1,720.

**Scenario 2.**—The farmer sells the certificates at a premium of 10 percent above face value, and gets \$2,154. However, storage costs for 10,000 bushels are \$2,000.

**Scenario 3.**—The farmer returns the certificates to CCC, taking an \$85 loss, lowering revenue to \$1,874. Again, storage costs are \$2,000.

Scenario 1 is the most profitable. The farmer makes about \$18,640 on the total crop, or \$1.86 per bushel. This is because the storage cost saving of \$280 (1,399 bushels x 20 cents) exceeds the potential increased revenue of \$196 (\$1,959 x .10) made from selling the certificates at 10 percent above face value in scenario 2. As long as the per-bushel storage cost divided by the posted county price times 100 is greater than the premium value, the farmer would gain by purchasing additional certificates to reacquire all or part of the remaining corn under loan (in this case, 8,601 bushels).

If the farmer did this, the cost would be \$13,246. The sum of the additional sales revenue of \$12,041, minus the cost of acquiring the additional certificates, results in a revenue reduction of \$1,204. But, this reduction is more than offset by the storage cost of \$1,720 that otherwise would be incurred over the 9-month life of the loan. Thus, the farmer has a net revenue increase of \$516.

Therefore, the farmer's total revenue now is \$19,154, more than in scenarios 2 and 3 by about 3 and 4.5 percent, respectively. And, per-bushel net revenue increases to \$1.92. The potential storage cost saving is greatest at the time the loan is taken out, and steadily diminishes over the life of the loan.

Another option available to the farmer is to hold certificates and speculate that market conditions at some point over the 8-month life of the certificates may give a better return than either exchanging them for a commodity or selling them at a premium at the time of placement. [Michael Hanthorn (202) 786-1840]

Certificate Options for a Corn Farmer: Three Scenarios

Item	Scenario 1: Uses certificates to pay part or all of loan	Scenario 2: Sells certificates and forfeits corn	Scenario 3: Returns certificates to CCC and forfeits corn
A. Loan rate	\$1.84	\$1.84	\$1.84
B. Posted county price	\$1.40	\$1.40	\$1.40
C. Farm price	\$1.40	\$1.40	\$1.40
D. Certificate premium (percent)	10	10	NA
E. GRN reduction (percent)	NA	NA	4.3
F. Bushels placed under loan	10,000	10,000	10,000
G. Loan revenue (A x F)	\$18,400	\$18,400	\$18,400
H. Value of issued certificates	\$1,959	\$1,959	\$1,959
advance deficiency payments	\$1,763	\$1,763	\$1,763
advance paid diversion payment	\$195	\$195	\$195
I. Bushels exchanged with certificates (H / B)	1,399	NA	NA
J. Bushels forfeited to CCC (F - I)	8,601	10,000	10,000
K. Per-bushel storage cost	\$0.20	\$0.20	\$0.20
L. Total storage cost (J x K)	\$1,720	\$2,000	\$2,000
M. Revenue from issued certificates			
Sell corn (C x I)	\$1,959	NA	NA
Sell certificates (M - (I x (D / 100)))	NA	\$2,154	NA
Return certificates to CCC			
(M - (I - (E / 100)))	NA	NA	\$1,874
N. Total revenue (G - L + M)	\$18,638	\$18,554	\$18,274
O. Per-bushel revenue (N / F)	\$1.86	\$1.86	\$1.83
P. Cost of purchasing certificates at 10% premium ((B x J) - (I x (D / 100)))	\$13,246	NA	NA
Q. Additional sales revenue (C x J)	\$12,041	NA	NA
R. Revenue reduction (Q - P)	(\$1,204)	NA	NA
S. Storage cost saving (J x K)	\$1,720	NA	NA
T. Net revenue increase (R - S)	\$516	NA	NA
U. Total revenue (N - T)	\$18,154	NA	NA
Per-bushel revenue (U / F)	\$1.92	NA	NA

NA = Not applicable. \*All scenarios as of October 1986.

that expectations of a large corn crop, as well as reduced loan rates already in place for wheat, barley, and oats, were holding corn prices below the 1985 loan rate even without certificates, particularly towards the end of the summer quarter.

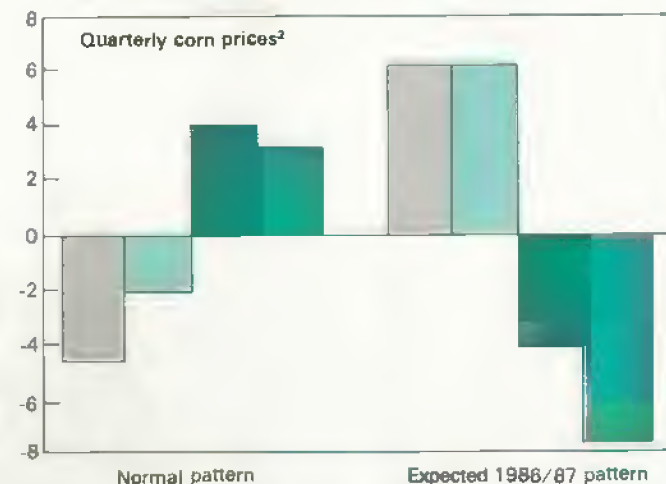
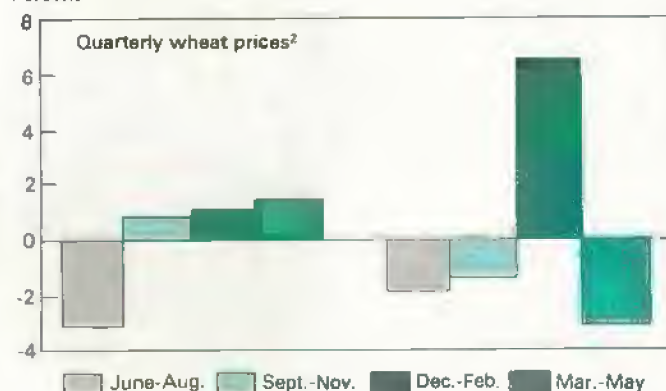
Certificates' price effects are smallest early in the crop year because free stocks are seasonally high then anyway. Harvest-quarter price impacts for wheat last June-August are estimated to have been minimal. In the following quarter, wheat prices were probably reduced by 5 to 10 cents a bushel by certificates. In December-February, wheat prices exceeded the loan rate, eliminating some advantages of exchanging certificates, particularly for farmers. Consequently, wheat exchanges declined and price impacts were probably small.

For corn, price impacts during the harvest quarter (September-November 1986) also are estimated to have been minimal. In December-February, corn prices likely were lowered by 10 to 20 cents a bushel from what they would have been without certificates.

The higher exchange levels expected this spring and summer will likely put prices for wheat and corn lower than they otherwise would have been. As a result, disappearance is expected to be somewhat larger than without certificates.

### Certificate Exchanges Will Reverse Usual Seasonal Price Patterns

Percent difference<sup>1</sup>



<sup>1</sup>Percent difference from crop-year average price.

<sup>2</sup>Quarterly averages based on 1980/81-1985/86 for wheat and 1980/81-1984/85 for corn.

Generic certificates could change the seasonal movement of prices within the 1986/87 crop year, particularly for corn. Typically, prices are lowest early in the crop year, then move higher. However, certificates are likely to affect wheat and corn prices most towards the end of the current crop years.

Wheat prices have generally risen through 1986/87. If expectations of a large 1987 crop push prices down to the loan rate plus accrued interest charges, certificate exchanges for wheat could increase before the new-crop harvest to free storage space. These exchanges would exert further downward pressure on wheat prices in the spring. Certificates are also likely to hold down corn prices in the second half of 1986/87, with the lowest prices likely occurring in the summer quarter.

Implicit in these price effects is the assumption of normal weather. If adverse weather hurts normal crop development in 1987, prices could rise instead of fall this summer.

### EFFECTS ON FARM INCOME

Despite lower commodity prices, certificates are not reducing incomes of participants who fully use the loan program.

#### Income from 1986 Crops With and Without Certificates

	Income with the generic certificate program	Income with no certificate program
<b>Corn example for a program participant</b>		
Base acres	100	100
Harvested acres	80	80
Effective loan rate	\$1.84	\$1.84
Loan payment	\$18,400	\$18,400
Storage costs <sup>2</sup>	\$2,000	\$2,000
Return	\$16,400	\$16,400
<b>Program benefits<sup>3</sup></b>		
Paid land diversion	\$195	\$187
Deficiency payments		
Basic payments <sup>5</sup>	\$5,257	\$5,161
Findley payments <sup>5</sup>	\$4,020	\$3,932
Premium received on generic certificates <sup>6</sup>	\$451	0
<b>Income</b>	<b>\$26,323</b>	<b>\$25,680</b>
<b>Corn example for a nonparticipant</b>		
Harvested acres	100	100
National average price <sup>7</sup>	\$1.40	\$1.70
Market return	\$17,500	\$21,250
Storage costs <sup>8</sup>	\$1,625	\$1,625
<b>Income</b>	<b>\$15,875</b>	<b>\$19,625</b>

<sup>1</sup>Assumes a yield of 125 bushels an acre.

<sup>2</sup>Assumes 9 months at 20 cents a bushel. <sup>3</sup>Assumes a program yield of 107 bushels per acre. All cash benefits are subject to GRH reductions. <sup>4</sup>About 58 percent in cash and 42 percent in certificates.

<sup>5</sup>Assumes 50 percent cash and 50 percent certificates.

<sup>6</sup>A 10-percent premium is assumed. The season-average farm price for corn during 1986/87 currently is estimated to be \$1.35 to \$1.65 per bushel. Generic certificates are reducing the season average price an estimated 25 to 35 cents per bushel. <sup>7</sup>Assumes an average of 6 months' storage, at 13 cents a bushel.



## Certificate Exchanges Vary With Loan Activity

Corn and wheat accounted for about 80 percent of the total value of exchanges during June-August 1986. In September-November 1986 and December 1986-February 1987, they accounted for 90 percent. The pattern of past exchanges may reflect activity this spring and summer (see Potential Generic Certificate Exchanges table).

The shares exchanged for corn and wheat separately have changed significantly over these crop-year quarters, with changes in loan placements and redemptions. In June-August 1986, 56 percent of certificates were exchanged for corn and 25 percent for wheat. During September-November, wheat's share remained at 25 percent, but corn's rose to 64 percent. And in December-February, corn rose to 80 percent, while wheat dropped to 11.

Corresponding to these shares, weekly exchanges during July-October 1986 averaged 21 million bushels for corn and 5.7 million for wheat. During November, exchanges rose, averaging 30 million bushels for corn and 7 million for wheat. In December 1986-February 1987, weekly exchanges for corn and wheat averaged 58 million and 5.4 million bushels, respectively, reflecting increased use of certificates by corn farmers. Reported corn exchanges hit a peak of 133 million bushels in the week ending February 11. Larger exchanges for corn since early September have reflected declining market prices, the beginning of loan placements, and the record-high amount of corn placed under loan.

Corn exchanges rose in the winter quarter as average weekly placements of corn under loan moved to 215 million bushels, up from 142 million in September-November. Since many farmers waited until calendar 1987 to place corn under loan, the share of all certificates exchanged for corn continued to rise, reaching a weekly peak of 87 percent in the middle of February. In contrast, wheat exchanges declined as placements of wheat under loan subsided from a

weekly average of about 22 million bushels in September-November to 4.3 million in December-February.

The share of wheat exchanged from loans has risen steadily from the 57 percent that prevailed during most of June-August 1986. Early on, a greater share of wheat exchanges were coming out of CCC stocks, and they were made primarily by grain merchants who were issued certificates through the EEP and the TEA program or bought them from other holders.

In September-November, wheat exchanges from CCC stocks declined, while exchanges from loans rose to 95 percent, as placements of the 1986 crop increased. In December-February, loan activity tapered off and, for some farmers, advantages of exchanging certificates for wheat fell because wheat prices were above the loan rate in most locations. As a result, the share of wheat exchanges from loans fell to 88 percent.

With posted county prices for corn well below the loan rate, virtually all corn redeemed from 9-month loans was freed through certificate exchanges—an average of 96 percent in September-November and 98 percent in December-February. And, for 1986 corn, the share of redemptions relative to placements rose from a weekly average of 7.2 percent in September-November to 38 in December-February.

For wheat, however, posted county prices have remained at or above the loan rate during most of 1986/87. Consequently, a smaller share of 9-month loan redemptions for 1986-crop wheat was made through certificate exchanges—77 percent in September-November, then 46 percent in December-February. As wheat placements subsided and normal redemptions from loan rose in December-February, redemptions of 1986-crop wheat relative to loan placements rose sharply, from an average 30 percent in September-November to 224 in December-February.

even in the short run. To illustrate, income support for corn farmers under the 1986/87 program is comprised of three components—the loan rate, Findley payment, and basic deficiency payments.

Basic deficiency payments to corn farmers for the 1986/87 program are based on a target price of \$3.03 a bushel and the basic loan rate of \$2.40 a bushel. Findley payments, which are additional deficiency payments, are based on a further reduction in the loan rate to \$1.92 a bushel. GRH reductions make the effective 1986-crop loan rate for corn \$1.84 a bushel.

The \$1.84 loan rate is not affected by certificates. These CCC loans are made in cash. Findley payments are the 48-cent difference between the reduced loan rate of \$1.92 a bushel and the basic rate of \$2.40. Some of these payments have already been made. The remainder are currently scheduled for October 1987 and could be partly or wholly paid in certificates.

Basic deficiency payments are the 63-cent difference between the target price and the basic loan rate. About 58 percent of 1986/87 corn deficiency payments are being paid in cash, about 42 percent in certificates. Only the cash portions of the basic and the Findley deficiency payments are subject to the GRH reduction; no GRH reduction is made on the portion paid in certificates. Further, the value of certificates is protected against changes in commodity prices because if prices fall, the certificates can be exchanged for additional amounts of the commodities.

Farmers save storage costs by acquiring stocks under loan and then selling them. Storage costs that would have accrued during the remaining life of the loan are eliminated. In addition, all interest expenses are forgone.

Moreover, incomes may be enhanced by taking advantage of temporary differences between market prices and posted county prices. Holders can also sell their certificates at a premium.

In contrast, if there had been no generic certificates, the loan rate portion of income support would have been the

same, but a participating corn farmer would have received the full deficiency and Findley payments in cash, subject to the 1986 GRH reduction. And, no additional income gains could have been achieved through alternative uses of certificates.

Farmers who have chosen to not participate in the commodity programs, and consequently are not provided any income support under the FSA, are adversely affected when prices fall. Many nonparticipants, however, raise livestock in addition to their crop operations. On these farms, grain is marketed indirectly through livestock feeding, thereby insulating nonparticipants from short-term adverse effects of lower prices. Further, longer run improvements in domestic and export demand from the more competitively priced commodities may partly offset any short-run adverse effects on nonparticipants.

### LONG-RUN DEMAND

More competitive market prices are contributing to a long-run improvement in domestic demand. For example, lower feed grain prices reduce the cost of producing meat, thereby encouraging expansion in the livestock industry.

Biological lags constrain the livestock sector in the short run. However, broiler production increases have accelerated recently, with output expected to be up 6 percent in 1987, compared with 5 percent in 1986. Commercial pork production is expected to be up 5 percent in the second half of 1987, the first major gain since 1983. Further, cattle inventories are projected to stabilize over the next few years, ending a decline that began in 1982.

Lower market prices also are boosting U.S. export competitiveness in two ways. First, competing producers are being sent a signal that the United States will no longer implicitly support global prices through high loan rates. To the extent that U.S. prices are below costs of production in competing producing countries, foreign-produced supplies may be diminished.

Second, lower market prices for our agricultural products may allow the United States to recapture export market shares of a potentially growing trade market, thereby increasing export demand. [Paul Westcott and Michael Hawthorn (202) 786-1840]



## The Outlook for Farm Program Spending

Government spending on farm price and income support programs during fiscal 1987 is projected at \$25.3 billion, down only slightly from the \$26.8 billion spent during 1986. Estimates for the remaining years covered by the Food Security Act of 1985 point to a reversal of the steady escalation of costs witnessed during the first half of the 1980's, as target prices are lowered and the buildup of surplus stocks ends. Therefore, under current policy, annual farm program spending by 1992 could be down from last year by over \$8 billion.

### Forecasting CCC Outlays Depends on Assessing Difficult Variables

The President's budget is reported to Congress each January. Detailed estimates are published for the current and upcoming fiscal year. Budget estimates are then updated in June and reported to Congress as the "midsession review," no later than July 15.

The standard measure of farm program spending is "CCC net outlays for price support and related activities." CCC borrows funds from the U.S. Treasury and repays them, with interest, from receipts and Congressional appropriations. CCC's outstanding borrowings may not exceed \$25 billion at any time. Budgeting for the many programs funded by the CCC involves accounting for gross outlays, gross receipts, losses, and borrowing authority.

### Preceding Year's Crop & Program Determine Following Year's Outlays

An estimate of CCC outlays for any fiscal year depends almost entirely on the supply/demand estimates and program activity for the preceding crop year. For instance, the



record outlays of fiscal 1986 were expenditures on the 1985 crop programs, the last year covered by the 1981 Farm Act. Likewise, fiscal 1987 spending is linked to the 1986 crop programs, the first covered by the 1985 Farm Act.

The major program crops—wheat, feed grains, upland cotton, and rice—account for 75 percent of farm program spending in fiscal 1987. The largest commodity program is feed grains, \$13.1 billion or 52 percent of CCC outlays. The largest activity is net lending under the nonrecourse loan programs, \$12.6 billion or 50 percent of outlays.

#### *Less Spending on Cotton and Soybeans Offset by More Outlays on Feed Grains*

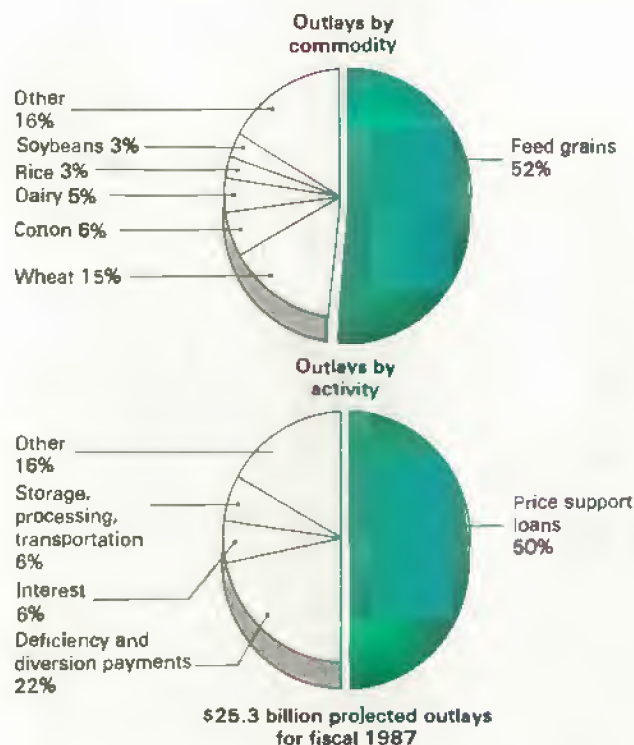
The 1987 outlay estimate approaches outlays in 1986. The major differences include about \$1 billion less in dairy program spending, because of lower CCC purchases of processed dairy products. The milk output decline due to the Dairy Termination Program has brought CCC purchases almost to a halt.

Stronger cotton exports and lower carryover are expected to lower cotton outlays by \$700 million this year. A smaller rise in soybean stocks in 1986 is expected to pare \$800 million from last year's soybean loan outlays.

However, these outlay reductions are being offset in feed grains, where rising stocks and low prices are boosting loan outlays significantly from last year. Also, phasing in the Conservation Reserve Program is increasing outlays by nearly \$700 million.

This year's estimates involve controversy over the effect of generic certificate outlays. When certificates are issued, they initially result in a reduction in outlays because they

#### **Net CCC Outlays Biggest for Feed Grains & Price Support Loans**



#### **CCC Net Outlays by Commodity and Function**

	Fiscal years		
	1986	1987	1988 (President's budget)
\$ million			
<b>COMMODITY</b>			
Feed grains	12,211	13,141	10,367
Wheat	3,440	3,674	3,841
Rice	947	833	945
Cotton, upland	2,142	1,439	740
Tobacco	253	-228	-222
Dairy	2,337	1,295	1,103
Soybeans	1,597	819	158
Honey	89	72	62
Wool	123	131	143
Other	29,702	4,086	3,826
Proposed legislation	---	---	308
<b>Total</b>	<b>25,841</b>	<b>25,262</b>	<b>21,272</b>
<b>FUNCTION</b>			
Price support loans	13,628	12,620	5,323
Direct payments	6,746	5,536	8,858
Purchases	1,670	612	-156
Producer Storage			
Payments	485	562	664
Processing, storage, & transportation	1,012	1,595	2,083
Operating expense	462	544	537
Interest expenditure	1,411	1,550	1,511
Conservation Reserve*	23	700	---
Export credit program	235	604	500
Other	168	940	1,952
<b>Total</b>	<b>25,841</b>	<b>25,262</b>	<b>21,272</b>

\*Shifted to direct appropriation in fiscal 1988.

replace payments that would otherwise be in cash. However, to exchange certificates for commodities under loan, some producers take out new loans, causing a rise in loan outlays.

If certificates are exchanged for commodities under existing loans, supplies readily available to the market increase. This puts downward pressure on market prices, in turn causing added loan placements. The exchange of certificates may also reduce loan redemptions that might otherwise have been made in cash. Whether certificates are exchanged for new loan stocks or old, the initial savings in direct cash payments is at least partly offset by larger net lending. It is through this effect on net lending that certificates are accounted for in the CCC budget estimates.

#### ***If Payments Are Shifted, Spending Could Reach Record High in 1987***

Legislation is pending which could significantly alter this year's outlays. A proposal has been introduced to shift about \$3 billion in final corn and sorghum deficiency payments from October (early fiscal 1988) to this spring or summer (fiscal 1987). If this shift occurs, CCC outlays during fiscal 1987 could exceed \$28 billion, a record high, assuming adequate borrowing authority is available.

Outlays could also be affected by other program decisions, such as certificate issuances, exports, and the size of 1987 crops harvested early in the summer—mainly winter wheat, barley, and oats.

Borrowing authority is also an issue for fiscal 1987 spending, because the CCC could reach the \$25 billion cap on Treasury borrowings some time this spring. CCC has ceased operations four times in the last 18 months because it has hit the \$25 billion ceiling.

From fiscal 1982 through 1986, Congress enacted eight supplemental appropriations for emergency reimbursement of CCC net realized losses. The President's budget program for this year includes a proposal to increase the ceiling to \$40 billion as a way to avoid CCC shutdowns.

#### ***Fiscal 1988—Cut or No Cut?***

The President's budget for 1988 projects CCC outlays on farm programs at \$21.3 billion. Though down 16 percent from this year's spending, the President's 1988 budget would be little different from 1988 outlays projected under current law. Most of the legislative changes proposed in the President's budget begin with the 1988 crops and therefore affect fiscal 1989 and later years.

Under the current law—that is, not including changes proposed by the Administration—the 1988 budget would drop because of these factors:

- Advance payments for 1987 crops shifted some outlays from fiscal 1988 to 1987. The 1987 feed grain program includes a 15-percent paid land diversion which will reduce fiscal 1988 deficiency payments and loan outlays.
- No advance payments are assumed for 1988 crops, so no outlays are shifted from fiscal 1989 to 1988.
- The outlays associated with the Conservation Reserve Program, estimated at \$700 million in fiscal 1987, are shifted from CCC funding to direct appropriation.
- Declining stocks of upland cotton and soybeans are expected to reduce net lending.
- Target price reductions for rice and upland cotton and tighter payment limits for 1987 crops, both changes required by current law, will reduce outlays slightly.

#### ***President's Program Would Save \$6 Billion a Year During 1989-92***

CCC outlays under current law are expected to trend down between fiscal 1989 and 1992. Lower target prices will reduce deficiency payments somewhat, and less stock accumulation, stronger demand, and the transition to market-based loan rates are expected to reduce net loan outlays. By contrast, under the President's program, there would be a greater reduction in outlays over fiscal 1989-92 than in the 1986 Farm Act.

Compared with current law, the President's budget would reduce spending during 1989-92 by \$24 billion, or an average of \$6 billion per year, by making the following changes:

#### **Problems in Forecasting Outlays**

Projecting CCC outlays is a complex process. Steps to an outlay estimate include: (1) establishing policy assumptions, (2) estimating commodity supply, demand, and prices, (3) estimating commodity program activity (participation, use of loan programs, level of direct payments, etc.), (4) adding up program costs, and (5) submitting results for USDA and OMB review.

The estimates are built transaction by transaction and commodity by commodity. There are some 30 commodities analyzed and an additional 55 noncommodity programs. The development of a typical 6-year projection—the current fiscal year plus 5 future years—requires analysts to process nearly 16,000 information items. This process is completed, excluding the development of policy assumptions, in only 10-12 workdays.

Forecasting CCC spending is difficult. Unanticipated changes in supply and demand—particularly falling exports and rising crop yields—and administrative and legislative program changes have caused large forecast errors.

Part of the problem is the way farm programs operate. Small changes in supply and demand can cause large changes in CCC outlays. For example, suppose soybean production had turned out 10 percent larger than it actually was in 1986. With the increase coming when supplies were already large and farmers were using the loan program heavily, most of the added production would likely have been placed under loan. Such placements would have put outlays for the soybean program at \$2 billion, more than double that expected.

**Target price reduction.**—The Administration proposes to reduce target prices 10 percent a year for the 1988-90 crops. By the 1990 crop year, wheat, feed grain, cotton, and rice target prices would all be reduced 27 percent from 1987, versus the 10-percent reduction allowed by current law.

The reduction in target prices would cut budget outlays by over \$20 billion during 1989-1992, accounting for most of the Administration's proposed spending drop. Even with the proposed target price reductions, though, outlays for farm programs are expected to average more than \$15 billion a year between 1988 and 1992, almost five times the average of the 1970's.

**Zero/92 Provision.**—Current law takes a step toward breaking the link between receiving deficiency payments and planting program crops by freezing program yields, limiting expansion of bases, and implementing the 50/92 provision. The 50/92 provision permits producers to receive 92 percent of deficiency payments for planting as little as 50 percent of permitted acres.

The Administration proposes to expand this to 0/92. Farmers could plant between zero and 92 percent of permitted acreage and still get 92 percent of the deficiency payments. Cutting the link between income support and production would allow producers faced with low prices and high production costs on marginal land to idle more acreage.



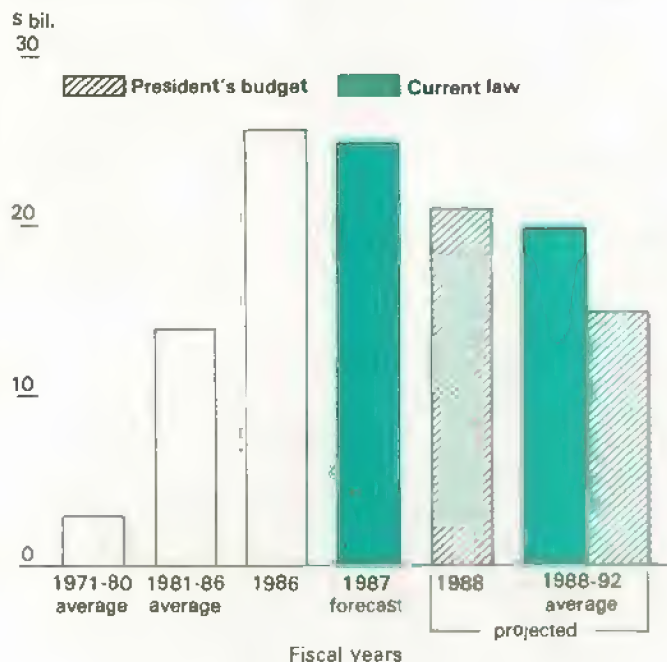
Because most production is on farms where out-of-pocket cash production expenses are well below loan rates, the loan rates will continue to act as an incentive for producers to plant their maximum permitted plantings. Consequently, the increase in land idled due to 0/92 would likely be small relative to acreage planted, and thus the projected outlay savings would be modest. Nevertheless, if only 2 million acres of corn land were idled by the provision, corn loan outlays could decline by as much as \$300 million.

**More discretion in setting loan rates.**—Even though existing law allows reductions in loan rates, the Administration proposes additional executive discretion to ensure market competitiveness.

The proposal is that the current limit on the annual drop in basic or formula loan rates—5 percent—be raised to 10 percent for wheat, feed grains, cotton, rice, and soybeans. Provisions designating minimum loan rates for cotton, rice, and soybeans would be eliminated.

All other provisions pertaining to loan rates as specified in the 1985 Farm Act would remain intact—such as formulas for determining loan rates on the basis of market prices, discretionary reductions in loan rates to maintain domestic and export markets, and marketing loan provisions for cotton and rice. If implemented, the loan rate reductions could have a mixed effect on outlays. For example, lower soybean loan rates could reduce soybean program outlays, but lower corn loan rates could raise corn deficiency payments, offsetting loan savings.

Farm Program Outlays To Drop Under Current Law & President's Budget



**Sugar loan reduction.**—The current sugar price support program has increased domestic cane and beet sugar production, cut consumption, encouraged use of substitute sweeteners (mainly corn and artificial sweeteners), and lowered imports. Under the current program, high domestic prices give overseas manufacturers of sugar-containing products an advantage, increase consumer costs and imports of sugar-containing products, and shift food-processing facilities overseas.

The Administration proposes to reduce the minimum loan level for sugar from 18 to 12 cents per pound, beginning with the 1987 crop. To assist farmers in the transition to a lower loan level, they would receive direct payments from 1988 through 1991. Because the current sugar program is operated at no cost to the Government, the payments would increase CCC outlays by \$1.1 billion during this period.

**Payment limits.**—Legislation is being proposed in Congress to establish more restrictive rules for setting and administering payment limits. For 1987 crops, producers eligible for Government payments are subject to a \$50,000 limit on deficiency and diversion payments and a \$250,000 limit on total direct payments. All direct payments—deficiency, diversion, disaster, marketing loan differentials, and producer option payments—are covered, as is the amount of honey loans outstanding at any time.

The effectiveness of current payment limits has been reduced by producers who legally alter the organization of their farms by increasing the number of persons eligible for separate payment limits. The Administration proposes making payment limits more effective by reducing producers' ability to reorganize for this purpose. It is uncertain how much CCC outlays would decline under this set of proposals, but it is likely that hundreds of millions of dollars per year, not billions, would be saved.

### Legislative Process Just Beginning

The submission of the President's budget to Congress starts the legislative process that will ultimately result in fiscal 1988 appropriations. The next step is a Congressional budget resolution, due in mid-April, which will specify spending targets for Congressional committees, including agriculture committees.

As projections in this article indicate, there will be little difference in 1988 CCC outlays under either current law or the President's budget. However, Congress is being pressured both by farm financial difficulties, and by the need to reduce the deficit. Therefore, Congress will be looking for new alternatives during the farm appropriations debate. [Keith Collins (202) 447-5955]



## Soil Erosion: Dramatic in Places, But Not a Serious Threat to Productivity

Over 5 billion tons of U.S. soil erode each year; erosion on cropland exceeds 3 billion tons per year. Despite the magnitude of these numbers, this erosion does not pose a serious threat to the United States' ability to produce food and fiber. However, erosion is a serious problem in some locales. The on-site costs of erosion exceed \$1 billion per year, but the off-site costs borne by the general economy are several times greater.

Erosion is the wearing away of the land surface by running water, wind, ice, or other geologic agents. It begins with the removal of a thin, fairly uniform layer of soil from the land surface by runoff water or wind—hence the term "sheet" erosion. Runoff water soon converges laterally into rivulets and forms numerous small channels no more than a few inches deep, called "rills."

These rills merge and form larger water flows, eventually eroding the channels in which they flow. As these channels deepen, rill erosion becomes erosion of gullies or stream banks. Of these types of erosion, gully erosion is the least controllable by agricultural production methods.

Wind erosion occurs when wind picks up loose soil particles and transports them away.

### *One-Fifth of Farmland Produces 85 Percent of All Erosion*

There are about 1.4 billion acres of rural U.S. land not owned by the Federal Government. Of that, more than three-fourths (1.1 billion acres) are eroding at rates low enough that the soil productivity can be maintained indefi-

nately. However, the remaining fourth of the agricultural land produces 85 percent of total erosion.

U.S. cropland covers about 420 million acres. About 44 percent of that total, or 185 million acres, are eroding fast enough to eventually impair productivity.

The cropland affected by wind erosion tends to be in different regions than the cropland affected by sheet and rill erosion. Thirty-seven percent of the acreage having sheet and rill erosion above the level that can be tolerated indefinitely occurs in the Corn Belt, and another 35 percent occurs in the Northeast, Lake States, Appalachian, Southeast, and Delta. In contrast, 78 percent of the acreage experiencing wind erosion above the tolerable level occurs in three Western regions—the Northern and Southern Plains and the Pacific.

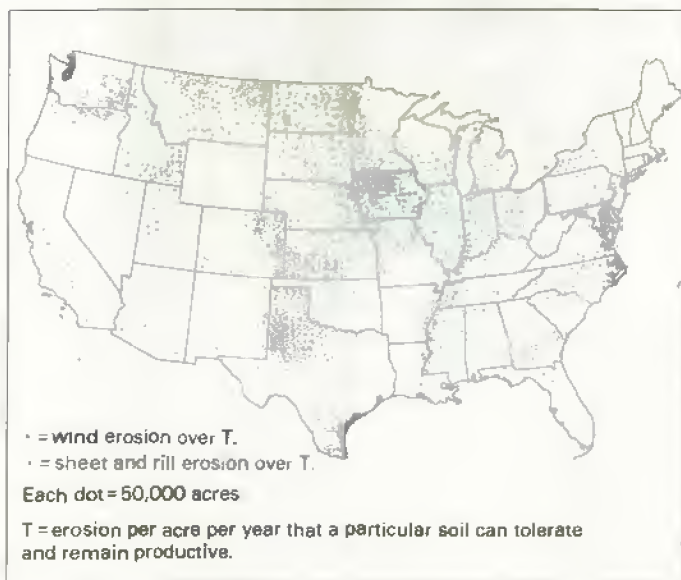
### *Northeast, Appalachia, Corn Belt Face Eventual Productivity Losses*

The potential long-term loss of productivity on a national level appears to be low. ERS estimates show that if the present levels of wind and sheet and rill erosion continued for another 100 years, productivity on the soils with the biggest erosion problems nationwide might decline only about 4 percent. When the acres on which erosion is not a serious problem are included, the average productivity loss on all agricultural land from another 100 years of erosion at current rates would be less than 3 percent.

Even though these erosion losses may not pose a significant threat to the United States' ability to produce food and fiber, serious problems exist on a small percentage of cropland. On some soils, crop production may actually cease to be economically feasible in a few decades if erosion continues at present rates.

The Northeast and Appalachian regions face productivity losses over 100 years of nearly 8 and 7 percent, respectively, on their problem soils (see the table "Loss of Productivity on Selected Soils After 100 Years of Erosion"). The Delta, Corn Belt, and Pacific regions could each see

### Erosion Exceeds Tolerable Level in Many Areas





# Wind and Sheet/Rill Erosion by T Level and Land Use\*

Land use category	Erosion of T or less		Erosion above T	
	Acres	Tons	Acres	Tons
million				
Cropland	236.0	465.1	185.4	2,628.5
Pasture	121.8	60.1	11.5	123.3
Rangeland	336.4	194.8	69.5	976.4
Forest	370.4	99.1	23.4	275.2
Other	45.4	10.4	9.0	613.1
Total	1,109.9	829.4	298.8	4,615.4

\*T refers to the tons of soil erosion per acre per year that the land can tolerate and remain productive.

## Estimated Annual Off-Site Damage from Sheet and Rill Erosion

Farm production region	Damage range	
	Low	High
\$ billion		
Northeast	629	2,221
Lake States	277	892
Corn Belt	451	1,683
No. Plains	180	1,521
Appalachian	293	888
Southeast	203	465
Delta	298	1,740
So. Plains	465	1,622
Mountain	448	1,282
Pacific	836	2,726
Total	4,080	15,040

ERS estimates.

## Cost of Reducing Erosion to the Rate of Soil Regeneration<sup>1</sup>

Farm production region	Erodible area <sup>2</sup>	Average annual cost	Cost per acre
	million acres	\$ million	\$
Northeast	8.5	132	16
Lake States	5.4	61	11
Corn Belt	26.2	508	19
No. Plains	14.0	80	6
Appalachian	11.6	155	13
Southeast	7.2	135	19
Delta	3.0	56	19
So. Plains	4.7	5	1
Mountain	3.5	--	0
Pacific	4.7	2	0.4
U.S. total	88.6	1,156	13

<sup>1</sup>Rate of soil regeneration equals 1 T. <sup>2</sup>Soils include land in capability classes Ie-VIIIa and Vb-VIIIa. Estimates based on acreage on which erosion is the primary agricultural management problem, about 220 million acres, or just over half of U.S. cropland. -- = Less than 0.5.

## Loss of Productivity After 100 Years of Erosion<sup>1</sup>

Farm production region	Sheet & rill erosion		Wind erosion	
	Productivity lost	Product value lost	Productivity lost	Product value lost
	Percent	\$ million	Percent	\$ million
Northeast	7.6	150	-	NA
Lake States	1.2	52	-	NA
Corn Belt	5.0	455	-	NA
Appalachian	6.8	154	-	NA
Southeast	2.3	32	-	NA
Delta	5.1	34	-	NA
No. Plains	0.9	77	0.3	23
So. Plains	0.3	10	2.5	79
Mountain	0.4	17	1.8	69
Pacific	1.8	84	0.5	17
United States	2.5	1,064	1.2 <sup>3</sup>	188

<sup>1</sup>Not estimated.

<sup>2</sup>Erosion is assumed to occur at the 1982 estimated rate. Soils include land in capability classes Ie-VIIIa and Vb-VIIIa. Estimates are based on acreage on which erosion is the primary agricultural management problem, about 220 million acres, or just over half of U.S. cropland. <sup>3</sup>Percent productivity loss is the average decrease in crop yields after 100 years of erosion at the estimated 1982 average erosion rate and cropping pattern, despite increases in fertilizer use to offset the fertilizer lost with erosion. <sup>4</sup>Average of four Western regions. ERS estimates.

## Regional Distribution of Cropland Erosion

Farm production region	Sheet & rill erosion		Wind erosion	
	At T or less	Above T	At T or less	Above T
million acres				
Northeast	11.5	5.7	17.2	0.1
Lake States	35.6	8.2	36.1	7.8
Corn Belt	50.6	41.8	88.3	4.1
No. Plains	78.6	14.7	80.1	13.3
Appalachian	12.8	9.9	22.7	--
Southeast	10.7	7.4	18.1	0.4
Delta	13.0	8.9	21.9	--
So. Plains	38.8	6.1	27.5	17.4
Mountain	37.6	5.7	27.1	16.2
Pacific	17.7	5.0	20.8	1.9
Total	307.0	113.6	359.6	61.0

<sup>1</sup>Because this table allocates cropland by source of erosion, the numbers will not match the values shown in the table showing wind, sheet, and rill erosion in total. First, there are some acres that may be listed twice, because erosion from both sources may individually exceed T. Second, in each region there is some land that erodes at less than T from either source individually, but above T if the values are combined. -- = Less than 0.1; totals may not add because of rounding.

## Off- and On-Site Damage from Erosion

Erosion is a natural process. But as land is farmed, erosion can accelerate. Sheet, rill, and wind erosion deplete farmland productivity by thinning and modifying the earth's root zone and by removing nutrients and organic matter.

The root zone changes, which may be gradual, depend on how much the existing plow layer differs from the soil below it. If these differences are great, then the gradual incorporation of the lower layers by plowing will change the texture and chemical properties of the plow layer. These changes may progressively decrease the soil's moisture-holding capacity and intensify toxicity problems. Soil structure changes caused by erosion may also reduce moisture infiltration, thus making less water available to the plants and possibly lowering yields.

In addition to the impact of inherent soil changes and nutrient removal, erosion may disrupt and delay agricultural operations, hurt crops and facilities, increase production costs because of replanting and repeating other production practices, and cause gullies that bisect fields.

These effects all occur on the farm and are called "on-site" effects. In addition, erosion has "off-site" effects. Examples include the pollution of rivers and lakes by runoff, deposits of wind-carried soil, sediment deposits in water bodies or on flooded land, and scouring damage caused by sediment water.

productivity losses over the next 100 years of about 5 percent on their problem soils. Over 40 percent of the potential losses in the value of products produced could occur in the Corn Belt.

The economic losses from declining productivity on the problem soils may total \$1.3 billion per year. For comparison, total U.S. agricultural production in 1987 is expected to have a market value of \$130 billion.

### *Damage Away from Site Large, But Hard To Quantify*

Erosion probably has a bigger economic impact on the environment surrounding a piece of eroding land than on the land itself. However, the off-site effects are difficult to quantify, particularly for wind erosion, because of their diffuse nature.

One study estimates the costs of off-site damage from sheet and rill erosion at \$2.9-\$12 billion per year, with a point estimate of \$5.2 billion.\* Of this, \$1.9 billion was attributed to erosion on cropland.

A separate study by ERS provided regional estimates of off-site damage from sheet and rill erosion. The off-site damage is distributed more equally across regions than on-site damage is. For instance, over 40 percent of on-site damage, but only about 10 percent of off-site damage, occurs in the Corn Belt.

## Costs Vary for Erosion Control Methods

Very little can be said in general terms about the methods and costs of controlling off-site damage from erosion. Too much depends on the specific field-by-field situation to assert which erosion controls will always be effective or economically feasible.

Management tools to reduce sheet and rill erosion involve keeping the soil covered and reducing the speed of water runoff. The first can be achieved by planting cover crops after harvest, by conservation tillage or no-till planting (leaving crop residues on the ground rather than plowing them under), or by leaving the most erodible acres in hay, pasture, or trees.

Water runoff may be slowed by tilling on the contour, contour strip cropping, ridge planting, or constructing terraces to shorten slopes.

Wind erosion controls are similar; the primary methods are either to leave crop residue on the soil or to protect it from wind shear forces by roughing up the soil surface or planting shelter belts.

Some of these control methods can be very costly (terracing or removing the land from crop production), some may be cheap or even save money normally spent by the producer (reduced tillage methods). ERS studies of alternative tillage methods on the most erodible cropland show conservation tillage would be more profitable than plowing on 74 of the 89 million most erodible acres. As a result, conservation tillage is likely to be adopted on many acres, including on the less erodible land, thus leading to a general decrease in erosion.

On the 89 million highly erodible acres included in the ERS study, the annual cost of reducing sheet and rill erosion (but not wind erosion) to an indefinitely sustainable rate would be about \$1.2 billion, or an average of about \$13 per acre. The highest total costs would be in the Corn Belt, about \$500 million in all. In the Corn Belt, Southeast, and the Delta, the costs would be about \$19 per acre. Costs in the Mountain and Pacific States would be negligible.

These costs are primarily for terrace construction or changes to less profitable crop rotations. These cost estimates apply only to the 89 million most erodible acres and may not reflect any changes in crop rotations on the less erodible soils, such as a change to more profitable crops that were displaced from the erodible soils.

Nonetheless, these are income losses to the owners of the erodible soils. These estimates show the approximate upper limit of the cost of the 1985 Food Security Act's conservation compliance provision for protection of these highly erodible soils. [Klaus Alt (202) 786-1403 and John Putman (817) 774-1201]

\* Soil Conservation Policy Task Force, American Agricultural Economics Association, January 1986.



## February Sign-Up Brings CRP To Almost 20 Million Acres

Over 100,000 producers submitted bids during the fourth Conservation Reserve Program (CRP) sign-up period, February 9-27. Just under 10.6 million acres were added to the 8.9 million acres previously enrolled, to bring the total to about 19.5 million acres. The average bid rose from \$46 per acre for the area previously enrolled to about \$51 per acre for the area enrolled in February. Erosion on the 8.9 million acres first enrolled averaged about 26 tons per acre per year, whereas the acreage enrolled in February was eroding at about 19 tons per acre per year.

A one-time, 1-year "bonus" rental payment was offered to farmers for enrolling corn base acreage into the CRP in February. The bonus, intended to induce greater participation from the corn-producing States, will be paid in generic certificates. Bonuses were not offered on other program crops.

Previously, roughly 7.5 percent (645,000 acres) of all area enrolled was corn base. (Base acres are those eligible to be enrolled in Government price and income support programs.) In the February sign-up, almost 18 percent of the land enrolled, or almost 1.9 million acres, was corn base. The \$2-per-bushel bonus equaled about \$180 per acre. Total base acreage in the CRP (including barley, corn, cotton, oats, peanuts, rice, sorghum, tobacco, and wheat) continues to represent just less than 65 percent of all acreage placed into the reserve.

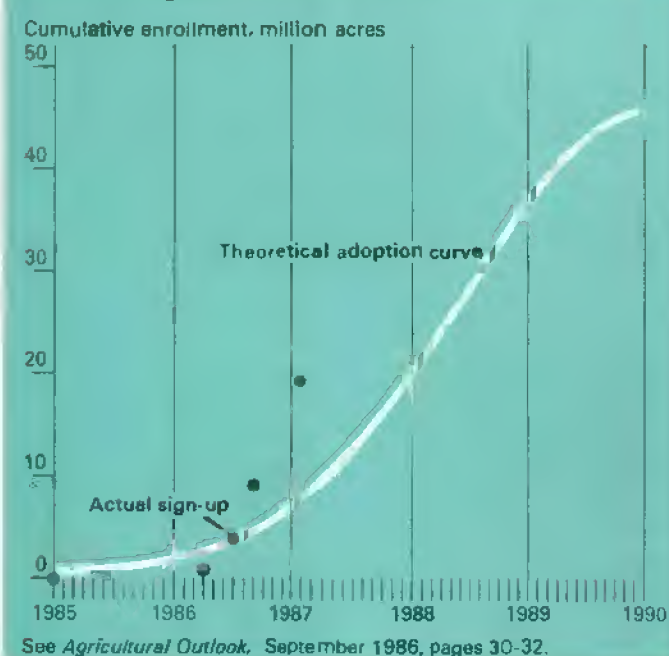
In all four sign-up periods, enrollment has been highest in the Mountain, Northern Plains, and Southern Plains regions. These regions account for about 55 percent of total acreage accepted. However, the Corn Belt, led by Iowa and Missouri, showed the biggest increase in enrollment at the February sign-up. Enrollment more than doubled in all regions except the Mountain and Pacific regions, which each saw a 170-percent increase, and the Corn Belt, which had a 336-percent increase.

For the February sign-up, the eligibility criteria for the CRP were changed to include both the previous criterion

(cropland with erosion in excess of three times the soil-loss tolerance level) and a new criterion, cropland with an erodibility index of 8 or greater. For land to be eligible under the erodibility index criterion, the rate of erosion observed during 1981-85 must have exceeded that recommended by the Soil Conservation Service field office technical guide.

The previous criterion encompassed some 70 million acres; the new one covers roughly 83 million acres. Because some 49 million acres are common to both the old and new criteria, the combination of the two will increase eligibility in 1987 to more than 100 million acres. The fifth sign-up period, scheduled for July 20-30, will be based on the new criterion only. [Michael R. Dicks (202) 786-1404]

Newest CRP Sign-Up Still Ahead of Target



Conservation Reserve Totals As of March 1987

Region	Total cropland	Eligible acres	Eligible as share of State cropland	Area accepted	Share of U.S. total accepted	Share of eligible accepted	Bids	Rental rate /acre	Acres /bid	\$/acre cap <sup>1</sup>
	1,000	1,000	Percent	Acres	Percent	Percent	Number	\$	Acres	\$
NE	17,268	4,636	26.8	87,319	0.4	1.9	2,223	56.02	39.3	50-65
Appalachian	22,555	7,372	32.7	666,172	3.4	9.0	13,857	53.32	48.1	45-60
SE	18,324	3,458	18.9	960,943	4.9	27.8	15,143	40.82	63.5	40-60
Delta	21,909	2,731	12.5	614,069	3.1	22.5	8,020	42.51	76.6	40-50
Corn Belt	92,421	22,087	23.9	2,979,100	15.3	13.5	40,325	69.36	73.9	40-90
Lake States	43,961	6,918	15.7	1,906,836	9.8	27.6	25,629	57.14	74.4	20-85
No. Plains	93,633	21,416	22.9	3,686,750	18.9	17.2	28,245	47.09	130.5	28-70
So. Plains	44,819	16,404	36.6	3,114,091	16.0	19.0	14,248	39.87	218.6	35-55
Mountain	43,219	16,293	37.7	4,172,963	21.4	25.6	11,898	39.32	350.7	33-50
Pacific	22,683	4,923	21.7	1,299,343	6.7	26.4	4,100	48.92	316.9	50-65
U.S.	420,792	106,238	25.2	19,497,971	100.0	18.4	163,706	48.58	119.1	20-90

<sup>1</sup> Eligible acreage includes cropland with a current erosion rate in excess of three times the soil loss tolerance level (3T) or cropland with an erodibility index greater than or equal to eight. \*maximum rental rate that could be considered by USDA.

## Erosion Tolerance (T) Value

Erosion is measured in tons per acre per year. One ton of erosion covers one acre to a depth of approximately .007 inches—less than the thickness of two sheets of typing paper.

The rate at which soil can tolerate erosion, or the soil-loss tolerance (T) level, has been defined as "the maximum rate of annual soil erosion that may occur and still permit a high level of crop productivity to be obtained economically and indefinitely."

T values reflect the sensitivity of crop yields to soil erosion. Each soil has been assigned a T value of 1 to 5 tons per acre per year, with 71 percent of the nation's cropland assigned the 5-ton level. A 5-T designation means that the soil can lose 5 tons per acre per year without hurting productivity. The maximum value of 5 reflects a state-of-the-art compromise estimate; even though some soils may not show yield declines at erosion rates above 5 tons, the amount of sediment generated at those higher levels exceeds a threshold sufficient to cause off-site effects.

## Estimating Procedures

Sheet and rill erosion in a given area is estimated by an equation that uses measures of crop canopy and rainfall intensity to quantify the force with which raindrops strike

the bare soil. The equation then identifies how much of the soil will be dislocated by that impact and the subsequent downhill flow, and how much soil will be transported down the soil slope to be deposited elsewhere.

Wind erosion is estimated by a second equation that uses information about the climate, measures of how easily soil particles can be picked up by the wind, the quantity of vegetative cover, and agronomic practices, such as the layout of a field relative to the prevailing wind direction and the way the soil is tilled.

Wind erosion has been studied much less intensively than sheet and rill erosion and may be influenced more by variables not specified in the equation. As a result, estimates of wind erosion are imprecise, particularly those outside of the Great Plains, where research has been concentrated.

Implicit in both equations is that erosion can only be modified partially by agricultural management practices; there will be a certain amount of erosion on any soil, no matter how carefully it is managed.

## Soil Loss or Soil Movement?

Another characteristic of the equations is that they measure soil movement within a field and not soil loss from a field. This is particularly true of the wind erosion equation.

### Acres of U.S. Cropland by Assigned T Values

T value (tons per acre per year)	Million acres	Percent
5	300.5	71
4	48.4	12
3	54.5	13
2	15.4	4
1	2.5	1
Total	421.3	100

Source: 1982 National Resource Inventory.

### Distribution of Cropland with Specified EI Values<sup>1</sup>

Farm production region	Sheet & rill erosion EI				Wind erosion EI			
	Below 2	2-5	5-8	Above 8	Below 2	2-5	5-8	Above 8
Million acres								
Northeast	2.4	4.3	2.6	7.9	17.2	--	0	0
Lake States	24.7	10.0	4.1	5.1	29.8	10.1	2.7	1.2
Corn Belt	31.3	25.4	11.1	24.5	90.7	1.6	0.1	--
No. Plains	53.8	24.1	6.9	8.5	7.7	36.6	29.7	19.3
Appalachian	3.7	6.0	2.6	10.4	22.7	--	0	0
Southeast	5.6	6.9	2.6	3.1	17.4	0.8	--	0
Delta	2.4	14.9	1.7	2.9	21.9	0	0	0
So. Plains	26.0	13.4	3.3	2.3	12.7	6.1	11.7	14.4
Mountain	33.1	6.8	1.7	1.7	2.1	5.0	16.2	20.4
Pacific	15.4	2.7	1.0	3.5	8.4	8.6	3.5	2.2
Total	198.5	114.5	37.7	70.0	230.1	68.8	64.0	57.1

<sup>1</sup>Because of a small amount of overlap, the figures cannot be added to derive the acreages for total erosion from both sources. -- = Less than 0.1



Estimates of erosion from both equations are frequently and inaccurately referred to as "soil lost" or "soil removed". In many cases, "lost" soil has merely moved to other cropland. Small-watershed research in Iowa estimated soil removal to be 24 percent of soil movement. A model developed by Resources for the Future in the United States shows that only 40 percent of the sheet and rill erosion in a 1977 survey ended up in the nation's waterways. Even though the precise figure depends on the watershed topography, 40 percent is a reasonable nationwide estimate.

### Soil Erodibility Index

The erodibility index (EI) classifies soils by the relationship between the soil's tolerance to erosion (the T value) and the physical determinants of erosion (i.e., all of the factors that cannot be modified by agricultural management practices)\*. Ranges of EI values generally indicate the relative amounts of conservation effort required to reduce the rate of erosion to a tolerable level, or 1 T.

Soils with an EI of 2 or less are essentially nonerodible and require no conservation treatment. Erosion can be controlled on soils with an EI of 2 to 5 with management practices such as sod in the rotation, conservation tillage, contouring, or a combination of the three. As the EI value increases above 5, the difficulty and expense of controlling erosion increase rapidly. Soils with an EI greater than 15 are essentially incapable of being tilled without exceeding the T value.

Studying U.S. cropland with potential erosion problems (as measured by EI) leads to two observations. First, there is little correlation between wind erosion and sheet/rill erosion. Thus, the regions with the worst wind erosion potential (the Plains and the Mountain States) are not equally threatened by sheet and rill erosion. The reverse holds for the regions with the worst sheet and rill erosion potential. Topography that is susceptible to water erosion is not susceptible to wind erosion.

A second observation is that erodible land is concentrated. The Corn Belt has 35 percent of the nation's 70 million acres at serious risk from sheet and rill erosion. In the Northeast, 46 percent (7.9 million) of the 17.2 million total cropland acres have an EI value above 8 for sheet and rill erosion.

\* Strictly speaking, terracing is an exception, because it does modify the effective slope length for water runoff.

## Upcoming Economic Reports

### Summary Released Title

#### April

1	Tobacco
2	Oil Crops
3	Rice
8	Agricultural Resources
9	World Ag. Supply & Demand
14	Middle East & North Africa
15	Cotton & Wool
16	World Food Needs & Availabilities Update
17	Agricultural Outlook
20	Dairy
	Foreign Ag. Trade of the U.S.
21	East Asia & Oceania
24	Feed

#### May

6	Livestock & Poultry
7	Western Europe
11	World Ag. Supply & Demand
12	USSR
18	Wheat
19	Agricultural Outlook
20	Exports
28	Eastern Europe

## Upcoming Releases from the Agricultural Statistics Board

The following list gives the release dates of the major Agricultural Statistics Board reports that will be issued by the time May *Agricultural Outlook* comes off press.

#### April

1	Egg Products
2	Poultry Slaughter
	Dairy Products
3	Meat Animals - Prod.
	Disp., & Income
6	Celery
9	Crop Production
10	Vegetables
13	Turkey Hatchery
14	Potato Stocks
16	Floriculture Crops;
	Milk Production
20	Catfish
22	Poultry-Production & Value
23	Eggs, Chickens, & Turkeys
24	Cold Storage
	Cattle on Feed
	Livestock Slaughter
28	Peanut Stocks & Processing
30	Agricultural Prices



## How Demographics Will Change Food Consumption by 2005

Despite recent concern about exports, the major outlet for U.S. agricultural products continues to be the domestic market. In 1986, gross cash receipts in agriculture totaled about \$138 billion; of that, sales for domestic food use comprised about 80 percent.

Moreover, many agricultural subsectors depend almost entirely on the U.S. domestic market. For example, in 1985 domestic civilian meat use actually exceeded domestic production by about 6 percent, and domestic civilian chicken consumption represented 95 percent of total production. In fact, the domestic market absorbs over 90 percent of U.S. production in every subsector except field crops.

Because of this dependence, changes in the quantities of land, labor, and capital used in many agricultural subsectors will be closely linked to changes in consumers' food purchases. If demographics change, how will consumption patterns be altered? How will the aging of the U.S. population affect food spending? Will some commodities benefit more than others? Will consumers spend more or less for food away from home versus food at home?

The demographic changes that appear to be the most critical over the next 20 years are slower growth in the population, an increase in the median age, a population shift from the Northeast and North Central regions to the South and West, and an increase in the proportion of blacks in the U.S. population.

## Population Growth Slowing

On a percentage basis, population growth during the next 30 years is expected to be less than half of the rate of the preceding 3 decades. Consequently industries that rely on population growth to fuel expansion must find alternative markets for their products if they are to maintain past growth rates.

Equally important, slowing population growth translates into an aging population with changing food spending patterns. For instance, food-away-from-home expenditures are 40 to 50 percent higher for the 20-44 age group than they are for persons 45 and over. For all the major food groups, food-at-home expenditures are 20 to 30 percent lower for the 20-44 age group than for those older.

Per person expenditures for pork, fruit, vegetables, and fats and oils show steady increases with advancing age. Per capita expenditures on beef, poultry, and dairy products tend to peak in the 45-64 age group. Within dairy products, the decline after 64 is due entirely to lower fluid milk and cream consumption; cheese and other dairy product expenditures are higher in the 65-75 age group. Thus, as the U.S. population grows older, some commodities should benefit more than others.

## Regional Differences In Food Spending Are Small

Regional differences in spending for aggregate food groups tend to be small. The most variation appears in poultry, with spending in the Northeast 19 percent above the national average and North Central expenditures averaging 17 percent below. Expenditures for fruit in the West are nearly 12 percent above the national average.

Some regional variation in food expenditures may represent regional differences in average prices over the 1980-81 data collection period. Also, region may be more important in determining how food is prepared and consumed than in determining the absolute consumption level.

How Race Affects Per Person Food Spending

Food Item	North Central			
	NE	South	West	
Percent of national average				
All food	103.4	96.6	97.6	103.2
Food away from home	98.7	98.6	100.0	102.7
Food at home	105.9	96.2	96.2	103.0
Beef	107.5	96.6	98.3	99.0
Pork	99.1	104.2	99.0	97.4
Poultry	119.2	82.8	103.0	100.5
Dairy products	104.3	97.9	92.7	106.4
Fruits	106.9	91.0	93.2	111.6
Vegetables	102.9	91.6	100.7	106.0
Fats and oils	105.0	96.6	94.6	105.2



## Black Consumers Spend More For Pork and Poultry

Black households' average total food spending is estimated to be 11 percentage points below that for nonblack families similar in age, income, and regional characteristics. Moreover, blacks and nonblacks allocate their food dollar in substantially different ways.

Nonblacks' per capita expenditures for dairy products average nearly 35 percentage points above blacks'. However, blacks tend to spend more for pork and poultry. In fact, average per capita expenditures for poultry are nearly 37 percentage points higher for blacks than for nonblacks. Therefore, Census projections that blacks will represent a larger proportion of the total population will reinforce the growth in consumption of poultry versus beef.

## Projecting Food Demand to 2005

To track demographic influences on food consumption patterns more closely, an analysis of demographic differences in food demand was combined with projected changes in total population growth, age distribution, residence by region, and racial mix. Food demand characteristics were adopted from the 1980-81 Bureau of Labor Statistics' Continuing Consumer Expenditure Survey. The major assumptions made are as follows:

- The U.S. population will grow from 239 million in 1985 to 276 million in 2005 [Bureau of Census "Middle Series" projection]. This is roughly half the rate of growth in 1950-1980.
- The number of people over 65 years old will increase 1.1 percent between 1985 and 2005, the number under age 9 will fall 2 percent, and those 45 to 64 will increase about 7 percent.
- The share of the total population residing in the Northeast will fall about 4 percentage points between 1985 and 2005. The North Central population share will fall 3.7 percentage points, and the South and West will increase 3.6 and 4.2 percentage points, respectively.
- Blacks will increase from 12.2 percent of the total population in 1985 to 13.7 percent in 2005.
- Real consumer purchasing power will rise 2 percent per year, close to the average of the past 20 years.

Although commodity prices and consumer preferences are a major influence on food consumption, they are difficult for economists to predict. Thus, for this study, relative prices and consumer preferences within the defined categories were assumed to remain at 1980-81 levels.

## Aging of Population Will Work To Lower Restaurant Spending

Changes in age distribution are expected to decrease food-away-from-home spending by 2.4 percent and increase food-at-home spending by 3.7 percent. Regional population shifts may cause food-away-from-home spending to increase slightly, while the changing racial mix of the population will lower both at-home and away-from-home food spending.

The changes in age distribution will have the most impact on pork and poultry expenditures, which by 2005 will gain 5.7 and 5.1 percent, respectively. The least age impact is

## How Age Affects Per Person Food Spending

Food item	Age group		
	20-29	30-44	65-74
Age 45-64 = 100			
All food	90.8	96.2	100.2
Food away from home	148.0	142.3	92.5
Food at home	69.3	77.7	102.2
Beef	69.1	71.7	97.9
Pork	56.9	58.8	105.0
Poultry	61.5	75.8	98.9
Dairy products	78.5	86.3	97.0
Fruits	65.5	70.1	127.2
Vegetables	67.7	76.7	108.3
Fats and oils	71.6	77.5	109.2

## How Race Affects Per Person Food Spending

Item	Percent of national average	
	Nonblack	Black
Total food	101.7	90.3
Food away from home	102.1	87.7
Food at home	101.5	91.3
Beef	100.7	95.7
Pork	97.4	116.4
Poultry	95.1	131.8
Dairy products	105.3	70.6
Fruits	100.8	95.5
Vegetables	101.2	93.0
Fats and oils	103.2	82.2

## Age & Regional Distribution of the U.S. Population, 1985 & 2005

	Proportion of total population	
	1985	2005
Percent		
AGE		
0-9	14.7	12.7
10-19	14.7	14.0
20-29	18.1	13.2
30-44	21.8	21.2
45-64	18.7	25.6
Over 65	12.0	13.1
Total	100	100
REGION		
Northeast	20.5	16.4
North Central	25.1	21.4
South	34.2	37.8
West	20.2	24.4

## Limitations to This Analysis

There are major limitations to this analysis. First, it assumes that as people move from one group to another (for example, from one age bracket to another), their preferences immediately reflect characteristics of the new group, regardless of their previous habits. Second, the analysis is based on cross-section data collected over a short period of time. Consequently, it assumes that food prices stay the same in relation to each other. In reality, the same consumption patterns would not exist under alternative prices.

As supply and demand change over time, relative prices will change, and the spending growth patterns suggested here could be altered dramatically. For example, recent research indicates that a 10-percent increase in pork prices decreases pork demand by 7.3 percent. Thus, if this relative price increase actually occurred by 2005, it could negate half of the pork consumption gains expected because of changes in demographic factors and income.

Alternatively, this same 10-percent increase in pork prices would increase demand for poultry 2.6 percent and for beef 1.1 percent. This shift would then reinforce the beef and poultry demand changes projected because of demographic and income changes.

A third limitation is that the projections do not hold constant the quality and product mix of purchases within a category. For example, the strong income-generated growth in dairy product expenditures reflects high growth in cheese (17.7 percent) and other processed dairy products (11.9 percent) and very little impact on milk and cream (1.2 percent).

Complete details of the study reported in this article are available in ERS Technical Bulletin 1713, *U.S. Demand for Food: Household Expenditures, Demographics, and Projections*.

expected for dairy products (up 2.2 percent) and sugars and sweeteners (up 2.1 percent). However, age distribution changes will increase per capita spending for all major food groups.

Regional population distribution will have little influence on per capita expenditures. Spending on beef, pork, and cereals and bakery products should decline slightly because of regional shifts. Vegetable and fruit expenditures will increase slightly.

While racial distribution changes will generally work to lower per capita spending on food, poultry and pork are expected to benefit from the greater proportion of blacks in the population. Dairy products, sugars and sweeteners, and fats and oils will be hurt the most by the racial shift.

## Income and Population Growth Are Most Important Factors

Despite all these major demographic influences, income growth will far overshadow any of them. Assuming that per capita real income grows 2 percent a year, total per person food expenditures are projected to increase 21 percent over 1980-2005. Much of the growth will accrue to food-away-from-home spending—which is forecast to rise 36 percent.

Income growth will benefit the beef, fruit, and vegetable groups the most—because they are high-value products most sensitive to income boosts. For each of these, the impact of 2-percent annual growth in real income is an estimated 13.5-percent gain in per capita expenditures between 1980 and 2005. Poultry appears to be the least affected by income growth.

The net effect of projected changes in demographics and an assumed 2-percent real income growth will be to increase per capita food expenditures by 22.7 percent. The largest increases are anticipated for beef (16 percent), fruit (18), and vegetables (18.7). The only two categories for which per capita consumption growth is estimated to be less than 10 percent are dairy products and sugars and sweeteners.

The Bureau of Census Middle Series projections suggest that nearly 40 million more people will have to be fed in 2005 than in 1985. This population increase, combined with changes in per capita spending, is projected to raise total food expenditures 49 percent. Food away-from-home expenditures could jump 62.7 percent, compared with 39.8-percent expansion for at-home expenditures.

Since these projections are made under the assumption of constant real prices, the estimates for changing spending on individual food categories represent a rough estimate of volume changes. Note also that the individual food groups represent at-home consumption only. To the extent that the away-from-home market grows for particular foods, these projections tend to understate total expenditure growth for those food groups.

Population growth is the dominant factor affecting food expenditure expansion. Therefore, the variation of growth levels between food groups is less than that exhibited by the per capita projections. The largest projected increase is for vegetables (44.4 percent) and the smallest is for dairy products (32.7).

## Effects on Both Livestock and Crops Fairly Modest

If total beef requirements for domestic consumption increased the 41 percent projected for at-home use between 1980 and 2005, the number of cattle slaughtered annually would need to increase from about 33.8 million head to 47.7 million, assuming constant average weights and beef yields. However, the increased need will be only 14 percent more than the 41.9 million head marketed in 1977. The projected increase in pork consumption would require about 33 million more hogs than the record 96 million head slaughtered in 1980, again assuming constant average weights.



In crops, projected population changes will not require increases in acreage. Between 1955-59 and 1979-83, a period of 25 years, yields for corn rose 110 percent, wheat 58 percent, sorghum 94.5 percent, and soybean yields rose 29.5 percent. Assuming trend growth rates in crop yields, the projected increases in grain, meat, and dairy product demand would not require any additional farmland to grow food and feed.

Estimated Change in Per-Capita  
Food Spending, 1980 to 2005

Food group	Effect due to:				Total <sup>2</sup>
	Age dist.	Regional dist.	Race	Income <sup>1</sup>	
	Percent				
All food	1.7	0	-0.2	21.1	22.7
Food away					
from home	-2.4	0.3	-0.3	36.4	33.7
Food at home	3.7	-0.1	-0.2	11.5	14.9
Beef	3.0	-0.4	-0.1	13.4	15.9
Pork	5.7	-0.3	0.4	8.2	14.2
Poultry	5.5	0.1	0.6	4.4	10.6
Cereals & bakery	3.1	-0.9	-0.2	8.4	10.4
Dairy products	2.2	-0.1	-0.7	7.7	9.0
Fruits	4.1	0.4	-0.1	13.4	18.1
Vegetables	4.5	0.6	-0.2	13.5	18.7
Sugar &					
sweeteners	2.1	-0.2	-0.4	8.2	9.8
Fats & oils	4.2	-0.1	-0.4	9.8	13.6

<sup>1</sup>Assumes 2 percent per year growth in real per capita income. <sup>2</sup>Net adjustment after accounting for projected changes<sup>1</sup> in all variables.

Estimated Percentage Change in National  
Food Expenditures, 1980 to 2005

Food group	Percent growth*
All food	49.3
Away from home	62.7
At home	39.8
Beef	41.3
Pork	39.0
Poultry	34.9
Cereals & bakery products	34.4
Dairy products	32.7
Fruits	43.7
Vegetables	44.4
Sugars & sweeteners	33.6
Fats & oils	38.3

\*Assumes 2-percent annual income growth and Bureau of Census Middle Series population growth projections.

This is consistent with historical patterns, resources needed to meet domestic demand have actually declined. In 1950, roughly 295 million acres were required to produce the food and feed needed for domestic use. Thirty years later, domestic uses required the output of only 115 million acres.

Dairy is an example of acute discrepancy between the growth in domestic commercial demand and production capacity. During 1955-59, average milk production per cow was 6,307 pounds per year. By 1979-83, the average had nearly doubled to 12,094 pounds. Assuming that milk yields continue to increase at this rate, even with projected demand gains, only 7.5 million milk cows (including heifers that have calved) will be required in 2005. This compares with 11 million head on farms in 1980.

Overall, demographic and socioeconomic factors are not likely to raise domestic demand enough over the next 20-25 years to offset increases in productivity. This implies that resources will have to shift out of agriculture, or that the United States will have to experience substantial growth in foreign demand to maintain constant real prices. [James R. Blaylock and Lester H. Myers (202) 786-1862]

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# Statistical Indicators

## Summary Data

Table 1.—Key statistical indicators of the food and fiber sector

	1986					1987			
	I	II	III	IV	Annual	I F	II F	III F	Annual F
Prices received by farmers (1977=100)	123	122	124	122	123	120	120	121	120
Livestock & products	133	130	146	144	138	144	142	144	143
Crops	112	113	101	100	106	98	96	97	97
Prices paid by farmers, (1977=100)									
Prod. items	149	145	144	142	143	149	146	145	146
Commodities & services, int	163	161	159	158	159	160	160	161	161
Taxes, & wages									
Cash receipts (\$ bil) 1/	129	130	130	146	134	128	122	128	129
Livestock (\$ bil)	66	67	75	76	71	69	70	73	71
Crops (\$ bil)	63	64	55	70	63	59	52	55	58
Market basket (1967=100)									
Retail cost	285	284	292	294	289	292	292	294	293
Farm value	226	222	244	243	234	232	231	237	235
Spread	319	320	319	324	321	327	327	327	327
Farm value/retail cost (%)	30	29	31	30	30	29	29	30	30
Retail prices (1967=100)									
Food	315	317	322	324	320	327	328	330	326-333
At home	302	302	308	310	305	313	313	314	311-317
Away-from home	354	359	362	366	360	367	371	375	371-378
Agricultural exports (\$ bil) 2/	7.4	5.7	5.5	7.5	26.3	7.1	5.9	5.5	26.0
Agricultural imports (\$ bil) 2/	5.6	5.4	5.0	5.1	20.9	5.3	5.0	4.6	20.0
Production:									
Red meat (mil lb)	9,551	10,021	9,722	9,742	39,036	9,419	9,378	9,383	37,607
Poultry (mil lb)	4,107	4,536	4,685	4,601	17,929	4,395	4,695	5,015	19,175
Eggs (mil doz)	1,422	1,421	1,413	1,458	5,716	1,435	1,430	1,425	5,768
Milk (bil lb)	36.2	38.4	35.6	33.9	144.1	34.7	37.3	35.4	141.4
Consumption, per capita:									
Red meat and poultry (lbs)	51.9	54.1	53.9	55.1	215.0	51.8	53.6	53.4	213.6
Corn beginning stocks (mil bu) 3/	8,614.7	6,587.1	4,990.0	4,039.5	4,039.5	10,302.6	--	--	5,595.0
Corn use (mil bu) 3/	2,028.9	1,599.4	956.5	1,990.1	6,900.0	--	--	--	--
Prices: 4/									
Choice steers--Omaha (\$/cwt)	57.22	54.52	58.91	60.36	57.75	60-61	63-67	61-67	60-66
Barrows and gilts--7 wts (\$/cwt)	43.30	47.23	61.13	53.08	51.19	47-48	47-51	49-55	46-52
Broilers--12-city (cts/lb)	50.3	54.3	66.6	56.2	56.9	50-51	52-56	51-57	50-56
Eggs--NY Gr. A large (cts/doz)	74.2	63.4	72.8	74.0	71.1	64-65	63-67	65-71	64-70
Milk--all at plant (\$/cwt)	12.37	11.97	12.30	13.30	12.48	12.90-13.10	11.85-12.15	12.10-12.50	12.35-12.75
Wheat--Kansas city HRW (\$/bu)	3.33	3.22	2.50	2.65	2.93	--	--	--	--
Corn--Chicago (\$/bu)	2.48	2.51	1.72	1.62	2.28	--	--	--	--
Soybeans--Chicago (\$/bu)	5.34	5.32	4.90	4.86	5.11	--	--	--	--
Cotton--Avg. spot mkt. (cts/lb)	60.0	63.9	63.1	48.0	53.5	--	--	--	--
	1979	1980	1981	1982	1983	1984	1985	1986 F	1987 F
Gross cash income (\$ bil)	135.1	143.3	146.0	150.6	150.2	154.9	156.2	150	150
Gross cash expenses (\$ bil)	101.7	109.1	113.2	113.8	113.0	115.6	112.1	106	103
Net cash income (\$ bil)	33.4	34.2	32.8	36.8	37.1	39.3	44.0	44	47
Net farm income	27.4	16.1	26.9	22.7	13.0	32.7	30.5	29	32
Farm real estate values (1977=100)	125	145	158	157	148	146	128	112	101

1/ Quarterly data seasonally adjusted at annual rates. 2/ Annual data based on Oct.-Sept. fiscal years ending with year indicated.

3/ Dec.-Feb. first quarter; Mar.-May second quarter; June-Aug. third quarter; Sept.-Nov. fourth quarter; Sept.-Aug. annual. Use includes exports and domestic disappearance. 4/ Simple averages. F = forecast.



Table 2.—U.S. gross national product and related data

	Annual			1985		1986		
	1984	1985	1986 R	IV	I	II	III	IV R
\$ billion (Quarterly data seasonally adjusted at annual rates)								
Gross national product	3,765.0	3,998.1	4,206.5	4,087.7	4,149.2	4,175.6	4,240.7	4,260.6
Personal consumption expenditures	2,428.2	2,600.5	2,763.1	2,667.9	2,697.9	2,732.0	2,799.8	2,822.5
Durable goods	331.2	359.3	388.4	362.0	360.8	373.9	414.5	404.3
Nondurable goods	870.1	905.1	932.7	922.6	929.7	928.4	932.8	939.7
Clothing & shoes	147.2	155.2	165.0	158.7	161.3	165.0	166.6	167.2
Food & beverages	449.9	469.3	492.6	477.4	484.6	490.3	494.0	501.4
Services	1,227.0	1,336.1	1,442.0	1,383.2	1,407.4	1,429.8	1,452.4	1,478.5
Gross private domestic investment	662.1	661.1	684.1	669.5	708.3	687.3	675.8	665.3
Fixed investment	598.0	650.0	676.3	672.6	664.4	672.8	680.3	687.8
Change in business inventories	64.1	11.1	7.8	-3.1	43.8	14.5	-4.5	-22.5
Net exports of goods & services	-58.7	-78.9	-105.2	-105.3	-93.7	-104.5	-108.9	-113.6
Government purchases of goods & services	733.4	815.4	864.5	855.6	836.7	860.8	874.0	886.5
1982 \$ billion (Quarterly data seasonally adjusted at annual rates)								
Gross national product	3,489.9	3,585.2	3,675.5	3,622.3	3,655.9	3,661.4	3,686.4	3,698.3
Personal consumption expenditures	2,246.3	2,324.5	2,419.1	2,351.7	2,372.7	2,408.4	2,448.0	2,447.4
Durable goods	318.9	343.9	368.9	347.0	345.4	357.1	391.6	381.4
Nondurable goods	828.6	841.6	872.1	847.2	860.6	877.3	875.4	874.9
Clothing & shoes	142.7	146.0	155.7	147.5	152.4	157.1	157.7	155.6
Food & beverages	424.2	433.4	440.3	435.1	441.1	444.2	437.8	438.1
Services	1,098.7	1,139.0	1,178.2	1,157.5	1,166.6	1,174.0	1,181.0	1,191.0
Gross private domestic investment	652.0	647.7	657.9	653.2	684.0	664.7	651.3	631.7
Fixed investment	592.8	638.6	650.3	658.4	644.1	649.6	651.6	656.1
Change in business inventories	59.2	9.0	7.6	-5.2	39.9	15.1	-0.3	-24.4
Net exports of goods & services	-83.6	-108.2	-148.6	-132.0	-125.9	-153.9	-163.3	-151.1
Government purchases of goods & services	675.2	721.2	747.0	749.4	725.2	742.2	750.4	770.3
GDP implicit price deflator								
% change	3.8	3.3	2.6	3.6	2.5	1.8	3.6	.7
Disposable personal income (\$bil)	2,670.6	2,828.0	2,972.0	2,882.2	2,935.1	2,978.5	2,979.9	2,994.6
Disposable per. income (1982 \$bil)	2,470.6	2,528.0	2,602.3	2,540.7	2,581.2	2,625.8	2,605.5	2,596.6
Per capita disposable per. income (\$)	11,265	11,817	12,305	11,999	12,193	12,348	12,324	12,355
Per capita dis. per. income (1982 \$)	10,421	10,563	10,774	10,577	10,723	10,886	10,776	10,713
U.S. population, total, incl. military abroad (mil)	237.1	239.3	241.6	240.2	240.8	241.3	241.9	242.5
Civilian population (mil)	234.9	237.0	239.4	238.0	238.5	239.1	239.6	240.2
	Annual			1986				1987
	1984	1985	1986 P	Jan	Oct	Nov	Dec	Jan
Monthly data seasonally adjusted								
Industrial production (1977=100)	121.4	123.8	125.0	126.2	125.3	126.0	126.4	126.9
Leading economic indicators (1967=100)	165.8	169.1	178.8	173.4	179.8	181.4	185.6	183.8
Civilian employment (mil. persons)	105.0	107.2	109.8	108.9	110.2	110.4	110.6	111.0
Civilian unemployment rate (%)	7.5	7.2	7.0	6.8	6.9	6.9	6.7	6.7
Personal income (\$ bil annual rate)	3,110.2	3,314.5	3,486.1	3,417.4	3,518.0	3,524.0	3,546.8	3,548.0
Money stock-M2 (daily avg) (\$bil) 1/	2,373.7	2,566.5	2,798.4	2,574.7	2,760.4	2,774.6	2,798.4	2,820.0
Three-month Treasury bill rate (%)	9.58	7.48	5.98	7.04	5.18	5.35	5.49	5.45
Ass corporate bond yield (Moody's) (%)	12.71	11.37	9.02	10.05	8.86	8.68	8.49	8.36
Housing starts (thou) 2/	1,750	1,742	1,806	2,004	1,657	1,637	1,808	1,806
Auto sales at retail, total (mil)	10.4	11.0	11.5	11.4	10.3	10.5	13.6	8.3
Business inventory/sales ratio	1.34	1.37	1.37	1.36	1.36	1.35	1.31	--
Sales of all retail stores (\$ bil)	107.8	114.5	117.8	117.3	121.7	121.1	126.6 P	119.3
Nondurable goods stores (\$ bil)	68.9	71.6	71.6	73.0	74.0	74.0	74.8 P	74.7
Food stores (\$ bil)	22.5	23.5	24.5	24.2	24.8	24.9	25.0 P	24.7
Eating & drinking places (\$ bil)	10.4	10.9	11.7	11.3	12.1	12.1	12.5 P	12.6
Apparel & accessory stores (\$ bil)	5.4	5.8	6.2	6.0	6.4	6.4	6.5 P	6.5

1/ Annual data as of December of the year listed. 2/ Private, including farm. P = preliminary. R = revised.

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Table 3.—Foreign economic growth, inflation, and export earnings

	Average 1970-74	Average 1975-79	1980	1981	1982	1983	1984	1985	1986 est.
Annual Percent Change									
<b>Total foreign</b>									
Real GNP	5.5	3.7	2.6	1.6	1.7	2.0	3.2	2.9	2.6
CPI	10.2	14.0	16.7	15.8	14.4	18.7	21.3	21.0	11.2
Export earnings	27.5	14.6	22.6	-2.2	-6.8	-2.6	5.4	1.6	--
<b>Developed less U.S.</b>									
Real GNP	4.8	3.1	2.3	1.3	1.1	1.9	3.5	3.1	2.5
CPI	8.4	9.4	10.9	9.6	8.1	6.1	5.1	4.6	2.8
Export earnings	23.9	14.9	17.0	-3.3	-4.2	-0.5	6.1	4.9	--
<b>Centrally planned</b>									
Real GNP	5.1	3.5	1.5	2.1	2.7	3.4	3.7	3.0	3.4
Export earnings	19.4	16.1	16.5	3.4	6.0	8.2	1.5	-5.1	--
<b>Latin America</b>									
Real GNP	7.4	5.1	5.3	0.7	-0.5	-2.7	3.2	3.6	3.1
CPI	23.5	53.7	61.3	64.9	72.6	126.2	174.3	179.6	86.3
Export earnings	28.1	12.8	30.1	4.8	-9.7	-0.8	7.1	-5.5	--
<b>Africa &amp; Middle East</b>									
Real GNP	8.9	6.4	1.3	0.0	1.4	0.1	0.2	0.6	-1.0
CPI	8.7	16.4	22.1	18.7	12.0	19.0	5.9	4.7	8.3
Export earnings	49.6	43.2	38.5	-7.0	-18.9	-17.2	-8.1	-8.3	--
<b>Asia</b>									
Real GNP	6.0	6.8	6.3	6.6	3.6	6.6	5.6	3.3	4.1
CPI	13.0	8.4	16.4	14.1	7.3	7.7	8.5	4.9	4.9
Export earnings	30.1	19.4	27.3	5.0	-0.6	3.8	13.7	-3.5	--

Information contact: Timothy Bexter (202) 786-1688.

## Farm Prices

Table 4.—Indexes of prices received and paid by farmers, U.S. average

	Annual			1988					1987	
	1984	1985	1986 P	Feb	Sept	Oct	Nov	Dec	Jan R	Feb P
	1977=100									
<b>Prices received</b>										
All farm products	142	128	123	122	122	121	124	121	121	121
All crops	138	120	106	110	97	97	103	99	99	97
Food grains	144	133	109	131	91	92	97	99	100	100
Feed grains & hay	145	122	98	113	77	76	79	80	79	76
Feed grains	148	122	96	112	73	72	76	77	76	71
Cotton	108	93	81	94	79	78	89	90	84	77
Tobacco	153	154	138	145	136	130	131	131	130	131
Oil-bearing crops	109	84	77	78	76	72	76	76	72	71
Fruit, all	200	183	168	146	176	184	192	170	160	169
Fresh market 1/	218	196	176	155	184	193	203	177	166	176
Commercial vegetables	135	128	130	118	130	131	146	120	149	135
Fresh market	133	123	123	109	125	123	142	112	151	133
Potatoes & dry beans	157	125	114	91	109	113	118	125	126	125
Livestock & products	146	136	138	133	146	145	145	141	142	144
Meat animals	181	142	145	139	155	150	150	146	150	156
Dairy products	139	131	129	128	131	135	138	138	137	135
Poultry & eggs	135	119	129	116	138	139	136	124	118	115
<b>Prices paid</b>										
Commodities & services	165	163	159	161	--	158	--	--	159	--
Interest, taxes, & wage rates	155	151	145	148	--	142	--	--	143	--
Production items	135	116	108	113	--	99	--	--	99	--
Feed	154	154	153	151	--	160	--	--	164	--
Feeder livestock	151	153	148	154	--	146	--	--	146	--
Seed	143	135	124	128	--	116	--	--	116	--
Fertilizer	128	128	127	128	--	126	--	--	126	--
Agricultural chemicals	201	201	182	188	--	150	--	--	158	--
Fuels & energy	147	146	144	145	--	143	--	--	143	--
Farm & motor supplies	182	183	198	197	--	199	--	--	196	--
Autos & trucks	181	178	174	174	--	172	--	--	172	--
Tractors & self-propelled machinery	180	183	184	184	--	184	--	--	184	--
Other machinery	138	136	136	136	--	136	--	--	136	--
Building & fencing	149	150	150	153	--	150	--	--	148	--
Farm services & cash rent	257	238	213	237	--	213	--	--	207	--
Interest payable per acre on farm real estate debt	132	133	134	136	--	134	--	--	136	--
Taxes payable per acre on farm real estate	151	154	160	150	--	159	--	--	159	--
Wage rates (seasonally adjusted)	162	157	151	155	--	149	--	--	149	--
Production items, interest, taxes, & wage rates										
Ratio, prices received to prices paid 2/	86	79	77	76	77	77	78	77	76	76
Prices received (1910-14=100)	650	586	561	557	559	555	568	551	552	554
Prices paid, etc. (parity index) (1910-14=100)	1,132	1,120	1,097	1,119	--	1,089	--	--	1,091	--
Parity ratio (1910-14=100) 2/	58	52	51	50	--	51	--	--	50	--

1/ Fresh market for noncitrus; fresh market and processing for citrus. 2/ Ratio of index of prices received for all farm products to index of prices paid for commodities and services, interest, taxes, and wage rates. Ratio derived using the most recent prices paid index. Prices paid data will be published in January, April, July, and October. P = preliminary. R = revised.

Information contact: National Agricultural Statistics Service (202) 447-5446.



Table 5.—Prices received by farmers, U.S. average

	Annual*			1986					1987	
	1984	1985	1986 P	Feb	Sept	Oct	Nov	Dec	Jan R	Jan P
<b>Crops</b>										
All wheat (\$/bu)	3.46	3.20	2.71	3.16	2.28	2.30	2.43	2.49	2.53	2.53
Rice, rough (\$/cwt)	8.32	7.85	5.04	7.86	3.82	3.90	3.93	3.76	3.61	3.72
Corn (\$/bu)	3.05	2.49	1.86	2.32	1.44	1.40	1.47	1.50	1.47	1.36
Sorghum (\$/cwt)	4.60	3.97	3.11	3.55	2.36	2.35	2.38	2.41	2.37	2.29
All hay, baled (\$/ton)	75.40	69.90	61.90	66.70	58.40	57.40	56.50	57.20	55.40	58.10
Soybeans (\$/bu)	7.02	5.42	5.00	5.18	4.86	4.55	4.64	4.67	4.69	4.64
Cotton, Upland (cts/lb)	65.6	56.1	54.7	56.9	47.4	47.1	52.9	54.7	51.0	46.8
Potatoes (\$/cwt)	5.69	3.92	4.94	3.35	4.50	4.27	4.64	4.73	4.82	4.88
Lettuce (\$/cwt) 1/	11.00	10.90	11.20	8.34	12.60	8.31	12.00	11.00	14.80	8.65
Tomatoes (\$/cwt)	25.60	24.10	25.40	22.80	20.80	30.00	36.30	19.00	28.30	25.60
Onions (\$/cwt)	11.70	9.75	9.80	7.01	9.25	10.40	12.70	12.00	16.90	16.00
Dry edible beans (\$/cwt)	18.70	17.60	18.80	17.10	15.40	20.60	20.00	22.70	22.00	20.30
Apples for fresh use (cts/lb)	15.5	17.3	NA	17.2	22.3	20.1	18.5	17.9	17.9	19.5
Pears for fresh use (\$/ton)	300.00	349.00	396.00	352.00	341.00	419.00	396.00	390.00	376.00	407.00
Oranges, all uses (\$/box) 2/	5.95	7.41	4.18	3.71	4.34	4.47	6.58	4.59	4.24	4.75
Grapefruit, all uses (\$/box) 2/	2.68	4.01	4.21	3.76	6.63	6.29	4.19	4.54	4.50	4.55
<b>Livestock</b>										
Beef cattle (\$/cwt)	57.60	54.00	52.80	53.00	54.60	54.40	54.60	53.20	56.40	58.70
Calves (\$/cwt)	60.20	62.40	60.90	62.70	63.40	62.70	62.20	62.20	66.40	70.20
Hogs (\$/cwt)	47.60	43.90	50.10	42.80	58.30	53.10	52.80	50.60	47.20	48.90
Lambs (\$/cwt)	60.30	68.10	69.10	67.00	67.60	62.50	69.30	73.20	76.60	76.80
All milk, sold to plants (\$/cwt)	13.50	12.70	12.50	12.40	12.70	13.10	13.40	13.40	13.30	13.10
Milk, manuf. grade (\$/cwt)	12.49	11.72	11.50	11.40	11.70	12.10	12.30	12.30	12.00	11.90
Broilers (cts/lb)	33.2	30.2	34.7	29.0	37.8	40.7	34.9	30.6	31.1	30.1
Eggs (cts/doz) 3/	70.3	57.4	60.3	61.5	62.8	58.1	66.3	65.2	59.3	58.3
Turkeys (cts/lb)	46.6	47.2	44.2	36.4	51.2	52.6	51.5	41.5	34.9	35.3
Wool (cts/lb) 4/	79.5	63.3	66.0	55.8	72.1	68.2	62.3	62.0	57.0	59.6

1/ Due to program modifications, 1983 data not comparable with 1984 and 1985. 2/ Equivalent on-tree returns. 3/ Average of all eggs sold by producers including hatching eggs and eggs sold at retail. 4/ Average local market price, excluding incentive payments. \*Calendar year averages, except for potatoes, dry edible beans, apples, oranges, and grapefruit, which are crop years. P = Preliminary. R = revised. NA = not available.

Information contact: National Agricultural Statistics Service (202) 447-5446.

## Producer and Consumer Prices

Table 6.—Consumer Price Index for all urban consumers, U.S. average (not seasonally adjusted)

	Annual*			1986					1987 1/	
	1986	Jan	June	July	Aug	Sept	Oct	Nov	Dec	Jan
	1967=100									
Consumer price index, all items	328.4	328.4	327.9	328.0	328.6	330.2	330.5	330.8	331.1	333.1
Consumer price index, less food	328.6	329.5	328.6	328.0	328.1	330.0	330.2	330.4	330.6	332.2
All food	319.7	315.6	317.1	320.1	322.7	323.2	323.7	324.6	325.2	328.9
Food away from home	360.1	353.1	360.2	360.8	361.8	363.3	364.0	365.8	367.1	368.6
Food at home	305.3	302.5	301.6	305.5	308.9	309.0	309.5	309.9	310.2	315.2
Meats 2/	273.9	270.6	264.4	272.9	279.8	283.6	283.9	285.4	286.3	288.6
Beef & veal	271.4	275.7	264.9	267.6	270.9	272.4	273.8	277.6	279.5	282.9
Pork	273.8	259.3	257.0	278.0	292.6	300.1	298.0	295.6	294.2	294.0
Poultry	232.7	218.2	223.7	240.3	255.0	249.5	247.8	245.2	241.9	238.4
Fish	443.2	443.9	434.5	447.3	446.3	447.2	451.6	449.7	457.6	478.0
Eggs	186.3	194.4	166.9	175.2	192.9	186.0	186.2	195.8	198.6	193.2
Dairy products 3/	258.4	257.2	257.2	258.4	258.3	258.5	260.0	261.2	262.2	263.3
Fats & oils 4/	287.8	292.1	287.0	287.3	287.8	285.6	284.6	285.4	286.0	293.2
Fresh fruit	369.3	350.8	372.4	382.2	391.5	384.1	375.1	360.6	355.8	389.1
Processed fruit 5/	163.3	166.8	161.4	161.8	162.3	161.9	162.0	162.0	163.1	165.7
Fresh vegetables	330.3	362.3	326.2	325.0	321.9	321.0	328.8	338.9	342.5	356.3
Potatoes	307.3	267.9	317.3	356.0	357.9	335.4	323.4	325.7	332.0	340.1
Processed vegetables 5/	147.4	147.5	148.0	148.4	148.5	146.9	146.2	146.5	147.4	150.2
Cereals & bakery products 5/	325.8	322.0	326.1	326.3	328.2	328.5	328.4	328.5	329.5	331.5
Sugar & sweets	411.1	405.1	411.5	412.4	413.1	413.7	413.4	412.4	411.8	415.8
Beverages, nonalcoholic	478.2	459.7	480.0	478.3	476.9	475.7	477.5	476.9	470.2	482.6
Apparel commodities less footwear	188.8	186.3	184.8	183.3	188.1	194.0	194.6	194.4	191.7	187.7
Footwear	211.2	209.1	210.0	209.1	209.6	212.0	215.1	215.1	214.0	209.9
Tobacco products	351.0	342.7	347.1	354.3	356.2	356.8	357.2	357.3	357.6	364.9
Beverages, alcoholic	239.7	237.5	240.1	240.4	240.1	240.4	240.6	240.5	240.8	242.5

1/ Beginning January 1987 the CPIs are calculated using 1982-84 expenditure patterns and updated population weights. The old series were based on 1972-73 expenditure patterns. 2/ Beef, veal, lamb, pork, and processed meat. 3/ Includes butter. 4/ Excludes butter. 5/ December 1977=100.

Information contact: Ralph Parlett (202) 786-1870.

Table 7.—Producer price indexes, U.S. average (not seasonally adjusted)

	Annual			1986							1987
	1984	1985	1986 P <sup>1</sup>	Jan	Aug	Sept R	Oct	Nov	Dec	Jan	
	1967=100										
Finished goods 1/	291.1	293.7	289.6	296.0	288.1	287.3	290.5	290.7	289.9	291.7	
Consumer foods	273.3	271.2	278.0	275.0	284.0	282.9	282.9	283.0	282.9	280.0	
Fresh fruit	253.0	256.1	262.1	248.0	274.5	273.9	281.6	271.0	271.1	255.1	
Fresh & dried vegetables	278.3	245.1	241.1	244.0	237.8	243.6	249.6	262.5	251.9	226.9	
Dried fruit	386.6	363.5	377.4	371.1	381.5	377.9	383.8	387.3	384.8	383.6	
Canned fruit & juice	312.4	323.1	315.1	314.6	317.4	311.8	310.9	314.8	320.5	322.1	
Frozen fruit & juice	351.0	362.3	314.8	323.7	311.2	310.8	316.3	320.0	325.1	333.4	
Fresh veg. excl. potatoes	219.1	205.9	204.0	220.0	184.8	202.4	204.3	214.1	206.1	174.9	
Canned veg. and juices	252.6	246.9	245.1	240.8	244.3	248.2	243.2	245.3	246.8	246.4	
Frozen vegetables	291.0	298.4	298.5	299.0	298.5	298.4	297.9	297.8	298.4	300.3	
Potatoes	397.7	304.3	312.6	263.2	367.1	330.8	353.3	374.1	350.5	367.2	
Eggs	210.8	171.0	177.9	191.6	191.4	181.1	173.5	197.4	194.0	176.9	
Bakery products	299.1	313.7	321.3	319.7	322.9	323.1	323.0	322.5	321.1	322.2	
Meats	236.8	227.9	235.2	231.6	252.9	251.9	246.4	244.0	243.6	238.2	
Beef & veal	237.1	221.3	216.0	223.6	220.9	219.8	221.0	223.5	219.8	217.1	
Pork	226.5	223.8	250.9	231.5	296.2	291.5	272.1	259.4	263.4	250.4	
Processed poultry	206.0	197.3	207.8	192.4	245.8	223.0	232.9	213.3	200.5	194.6	
Fish	476.0	484.2	530.4	527.1	522.7	527.5	533.6	544.1	569.4	604.7	
Dairy products	251.7	249.4	248.8	245.8	248.6	250.3	251.8	253.5	254.4	253.9	
Processed fruits & vegetables	294.3	296.3	287.9	286.7	288.5	288.4	287.0	289.4	292.0	293.8	
Shortening & cooking oils	311.6	290.6	242.4	261.0	235.5	231.6	234.0	241.3	236.3	239.8	
Consumer finished goods less foods	294.1	297.3	283.4	298.3	277.5	277.4	281.0	281.1	279.9	284.5	
Beverages, alcoholic	209.8	213.0	217.8	216.2	218.8	218.1	218.7	218.0	218.3	217.5	
Soft drinks	340.2	343.6	349.7	345.0	347.6	348.9	351.3	351.0	351.6	351.8	
Apparel	201.3	204.1	206.5	205.0	206.5	206.8	207.0	207.4	206.7	207.5	
Footwear	251.7	256.7	261.8	259.4	261.6	262.1	263.5	263.5	263.8	264.6	
Tobacco products	398.4	428.1	460.4	451.0	469.2	469.2	469.3	469.3	469.3	487.1	
Intermediate materials 2/	320.0	318.7	307.6	317.4	304.5	306.1	304.9	304.9	305.0	307.1	
Materials for food manufacturing	271.1	258.8	250.9	252.8	255.5	254.3	253.2	253.2	253.0	251.0	
Flour	185.2	183.0	173.4	182.7	165.4	162.3	164.6	164.4	164.5	164.6	
Refined sugar 3/	173.5	165.6	166.4	165.1	166.6	167.5	168.3	168.6	169.1	169.2	
Crude vegetable oils	262.2	219.6	135.8	165.7	123.0	121.6	121.3	124.2	122.8	127.1	
Crude materials 4/	330.8	306.1	280.0	301.0	276.3	275.4	276.7	278.4	274.8	284.0	
Foodstuffs & feedstuffs	259.5	235.0	230.6	231.7	238.1	233.5	233.7	235.9	232.8	227.1	
Fruits & vegetables 5/	278.1	260.5	261.2	256.4	265.0	268.1	275.1	277.7	271.6	249.7	
Grains	239.7	202.8	167.2	193.4	138.9	132.6	134.9	146.3	149.7	140.9	
Livestock	251.8	229.9	236.1	232.6	253.0	253.1	245.1	247.1	244.5	238.3	
Poultry, live	240.6	226.2	248.8	212.8	340.0	279.5	314.0	250.9	219.7	212.3	
Fibers, plant & animal	228.4	197.8	179.3	196.3	94.3	107.9	150.8	154.0	176.7	192.3	
Fluid milk	278.3	264.6	256.9	255.2	256.2	258.6	266.6	270.4	271.4	271.5	
Oilseeds	253.3	202.7	186.2	194.7	187.7	187.2	183.6	208.9	196.3	202.1	
Tobacco, leaf	274.6	274.1	243.0	257.2	225.5	239.6	229.1	230.8	230.8	229.1	
Sugar, raw cane	312.0	291.3	292.2	284.0	292.9	293.2	297.0	299.0	294.4	299.7	
All commodities	310.3	308.7	299.8	308.9	297.2	297.5	298.3	298.7	298.1	300.9	
Industrial commodities	322.6	323.8	312.1	323.8	307.9	308.7	309.3	309.8	309.3	313.6	
All foods 6/	269.2	264.6	268.4	266.5	274.4	273.2	273.0	273.2	273.1	270.0	
Farm products & processed foods & feeds	262.4	250.5	252.0	251.5	255.5	254.0	255.4	255.2	254.6	251.5	
Farm products	255.8	230.5	224.7	227.4	227.0	224.1	225.4	229.3	226.8	220.2	
Processed foods & feeds 6/	265.0	260.4	265.1	263.3	269.6	269.0	268.2	267.9	268.4	267.0	
Cereal & bakery products	270.5	279.9	281.8	283.2	281.4	280.5	280.7	280.4	280.6	279.1	
Sugar & confectionery	301.2	291.0	295.7	291.2	296.0	297.6	298.7	299.6	299.7	298.0	
Beverages	273.1	276.6	294.3	290.0	292.9	292.1	293.1	292.5	292.8	289.4	

1/ Commodities ready for sale to ultimate consumer. 2/ Commodities requiring further processing to become finished goods. 3/ All types and sizes of refined sugar. (Dec. 1977=100). 4/ Products entering market for the first time which have not been manufactured at that point. 5/ Fresh and dried. 6/ Includes all raw, intermediate, and processed foods (excludes soft drinks, alcoholic beverages, and manufactured animal feeds). (1977=100). R = revised. P = preliminary.

Information contact: Bureau of Labor Statistics (202) 523-1913



# Farm-Retail Price Spreads

Table 8. — Farm-retail price spreads

	Annual				1988						1987
	1983	1984	1985	1986	Jan	Aug	Sept	Oct	Nov	Dec	Jan
<b>Market basket 1/</b>											
Retail cost (1967=100)	268.7	279.3	282.6	286.7	287.3	292.9	293.1	293.3	293.8	294.8	298.3
Farm value (1967=100)	242.3	255.4	237.2	234.1	234.0	247.3	245.9	244.7	244.8	240.8	230.7
Farm-retail spread (1967=100)	26.4	23.9	45.4	52.6	53.3	45.6	47.2	48.6	49.0	54.0	67.6
Farm value/retail cost (%)	90.2	91.8	84.0	81.7	81.4	84.8	83.9	83.5	83.5	82.1	80.7
<b>Meat products</b>											
Retail cost (1967=100)	267.2	268.1	265.5	273.8	270.6	279.8	283.6	283.9	285.4	286.3	288.3
Farm value (1967=100)	235.8	241.5	221.8	229.1	227.6	249.0	252.8	240.9	240.6	240.0	223.8
Farm-retail spread (1967=100)	30.4	26.6	43.7	44.7	43.0	30.8	30.8	42.9	44.8	46.3	64.5
Farm value/retail cost (%)	88.2	89.7	83.5	83.3	83.9	89.0	89.1	84.8	84.3	83.8	77.3
<b>Dairy products</b>											
Retail cost (1967=100)	250.0	253.2	258.0	258.4	257.2	256.3	258.5	260.0	261.2	262.2	263.2
Farm value (1967=100)	262.1	258.8	248.2	241.5	237.6	239.7	243.9	250.4	251.8	254.4	248.7
Farm-retail spread (1967=100)	239.3	248.3	266.5	273.3	274.4	274.6	271.4	268.8	269.3	268.0	276.7
Farm value/retail cost (%)	49.0	47.8	45.0	43.7	43.2	43.4	44.1	45.0	45.1	45.4	44.2
<b>Poultry</b>											
Retail cost (1967=100)	197.5	218.5	216.4	232.7	218.2	255.0	249.5	247.8	245.2	241.9	238.3
Farm value (1967=100)	213.0	249.9	234.9	255.4	219.7	326.4	282.2	300.4	266.6	228.4	221.7
Farm-retail spread (1967=100)	182.4	188.1	198.4	210.9	216.7	185.9	217.8	196.8	224.5	255.0	254.4
Farm value/retail cost (%)	53.1	56.3	53.4	54.0	49.5	63.0	55.6	59.6	53.5	46.4	45.8
<b>Eggs</b>											
Retail cost (1967=100)	187.1	206.0	174.3	186.3	184.4	192.9	186.0	186.2	185.8	188.6	193.5
Farm value (1967=100)	206.1	230.3	178.9	192.7	208.4	198.0	193.3	179.9	214.3	208.8	184.4
Farm-retail spread (1967=100)	159.5	178.2	167.6	177.1	174.3	184.1	168.3	153.3	169.0	183.9	206.5
Farm value/retail cost (%)	65.1	65.1	60.7	61.1	63.3	61.0	63.0	57.1	64.7	62.1	56.3
<b>Cereal &amp; bakery products</b>											
Retail cost (1967=100)	292.8	305.3	317.0	325.8	322.0	328.2	328.5	328.4	328.5	328.8	331.2
Farm value (1967=100)	186.6	182.0	175.9	142.3	165.8	123.9	121.7	124.8	125.7	127.0	125.2
Farm-retail spread (1967=100)	314.0	328.7	346.2	363.7	354.1	370.5	371.3	370.5	370.5	371.4	373.8
Farm value/retail cost (%)	11.1	10.8	8.5	7.5	8.8	6.5	6.4	6.5	6.6	6.6	6.5
<b>Fresh fruits</b>											
Retail cost (1967=100)	303.6	345.3	383.5	390.1	373.6	418.2	407.7	398.2	381.6	379.8	412.2
Farm value (1967=100)	220.6	315.1	302.7	285.3	286.2	290.9	291.4	305.6	305.6	309.5	292.2
Farm-retail spread (1967=100)	340.8	358.9	419.8	437.1	412.8	475.3	459.9	440.8	415.7	411.3	465.6
Farm value/retail cost (%)	22.5	28.3	24.4	22.7	23.7	21.5	22.1	23.6	24.8	25.2	22.0
<b>Fresh vegetables</b>											
Retail cost (1967=100)	299.3	311.8	317.5	330.3	362.3	321.9	321.0	328.8	338.9	342.5	355.4
Farm value (1967=100)	267.4	298.7	256.7	247.8	257.3	263.8	267.0	273.3	299.4	240.8	300.2
Farm-retail spread (1967=100)	314.3	347.4	346.1	369.2	411.7	349.2	346.4	354.9	357.5	380.3	381.4
Farm value/retail cost (%)	28.6	28.8	25.9	24.0	22.7	26.2	26.0	26.6	28.2	27.0	27.0
<b>Processed fruits &amp; vegetables</b>											
Retail cost (1967=100)	288.8	306.1	314.1	309.1	312.6	309.2	307.3	306.6	306.9	308.8	314.4
Farm value (1967=100)	300.5	343.5	278.5	326.3	341.8	317.5	315.3	332.5	332.1	344.3	352.4
Farm-retail spread (1967=100)	286.2	297.8	299.9	305.3	306.1	307.4	305.5	300.9	301.3	300.9	306.0
Farm value/retail cost (%)	18.9	20.3	21.8	19.1	19.8	18.6	18.6	18.7	18.6	20.2	20.3
<b>Fats &amp; oils</b>											
Retail cost (1967=100)	263.1	288.0	294.4	287.8	292.1	287.8	285.6	284.6	285.4	286.0	293.4
Farm value (1967=100)	251.0	324.8	271.3	199.1	224.1	187.0	178.7	186.2	181.5	184.1	198.9
Farm-retail spread (1967=100)	267.8	273.8	303.3	321.9	318.3	326.6	326.7	322.5	325.3	325.2	329.8
Farm value/retail cost (%)	26.8	31.3	25.6	19.4	21.3	18.1	17.4	18.2	17.7	17.9	18.8
	Annual				1988						1987
	1983	1984	1985	1986	Jan	Aug	Sept	Oct	Nov	Dec	Jan
<b>Beef, Choice</b>											
Retail price 2/ (cts/lb)	238.1	239.6	232.6	230.7	236.9	230.2	231.0	231.2	233.8	234.6	236.6
Net carcass value 3/ (cals)	145.4	147.6	135.2	133.1	138.6	135.6	135.8	137.1	141.7	136.3	134.0
Net farm value 4/ (cals)	136.2	140.0	126.8	124.4	128.4	128.2	129.0	128.9	134.1	128.3	125.7
Farm-retail spread (cals)	101.9	99.6	105.8	106.3	108.5	102.0	102.0	102.3	99.7	106.3	110.9
Carcass-retail spread 5/ (cals)	92.7	92.0	97.4	97.6	98.3	94.6	95.2	94.1	92.1	98.5	102.6
Farm-carcass spread 6/ (cals)	9.2	7.6	8.4	8.7	10.2	7.4	6.8	8.2	7.6	8.0	8.3
Farm value/retail price (%)	57	58	55	54	54	56	56	56	57	55	53
<b>Pork</b>											
Retail price 3/ (cals/lb)	169.8	162.0	162.0	178.4	169.0	190.3	184.4	194.8	192.5	191.3	188.1
Wholesale value 3/ (cals)	108.8	110.1	101.1	110.9	99.1	131.9	127.3	118.6	118.4	113.6	105.4
Net farm value 4/ (cals)	76.5	77.4	71.4	82.4	72.9	102.0	95.7	86.7	86.1	81.4	75.7
Farm-retail spread (cals)	93.3	84.9	80.6	96.0	86.1	88.3	88.7	108.2	106.4	109.9	112.4
Wholesale-retail spread 5/ (cals)	60.8	51.9	60.9	67.5	69.9	58.4	67.1	76.4	74.1	77.8	82.7
Farm-wholesale spread 6/ (cals)	32.4	32.7	29.7	28.5	26.2	29.8	31.6	31.8	32.3	32.1	29.7
Farm value/retail price (%)	45	48	44	46	43	54	49	44	45	43	40

1/ Retail costs are based on indexes of retail prices for domestically produced farm foods from the CPI-U published monthly by the Bureau of Labor Statistics. The farm value is the payment to farmers for quantity of farm product equivalent to retail unit, less allowance for byproduct. Farm values are based on prices at first point of sale and may include marketing charges such as grading and packing for some commodities. The farm-retail spread, the difference between the retail price and the farm value, represents charges for assembling, processing, transporting, and distributing these foods. 2/ Estimated weighted average price of retail cuts from pork and choice yield grade 3 beef carcasses. Retail cut prices from BLS. 3/ Value of carcass quantity (beef) and wholesale cuts (pork) equivalent to 1 lb. of retail cuts; beef adjusted for value of fat and bone byproducts. 4/ Market value to producer for quantity of live animal equivalent to 1 lb. of retail cuts minus value of byproducts. 5/ Represents charges for retailing and other marketing services such as fabricating, wholesaling, and in-city transportation. 6/ Represents charges made for livestock marketing, processing, and transportation to city where consumed.

Note: Annual historical data on farm-retail price spreads may be found in Food Consumption, Prices and Expenditures, Statistical Bulletin 736, ERS, USDA.

Information contacts: Denis Dunham (202) 786-1870; Ron Gustafson (202) 786-1830.

Table 9.—Price Indexes of food marketing costs

(See the March 1987 issue, page 40.)

Information contact: Denis Dunham (202) 786-1870.

Table 10.—U.S. meat supply and use

Item	Beg. stks	Pro-duction 1/	Im-ports	Total supply	Ex-ports	Ship-ments	Milli-tary con-sump-tion	Ending stocks	Civilian consumption		Primary market price 3/
									Total	Per capita 2/	
										Pounds	
Million pounds 4/											
<b>Beef:</b>											
1984	325	23,598	1,823	25,746	329	47	112	358	24,900	78.5	65.34
1985	358	23,728	2,071	26,157	328	51	115	317	25,346	79.1	58.37
1986	317	24,387	2,101	26,805	507	54	122	310	25,812	79.8	57.75
1987 F	310	22,796	2,150	25,256	525	60	110	325	24,236	74.2	60-66
<b>Pork:</b>											
1984	301	14,812	954	16,067	164	147	86	274	15,396	61.8	48.86
1985	274	14,807	1,128	16,209	128	131	70	229	15,651	62.1	44.77
1986	229	14,062	1,107	15,398	85	133	77	197	14,906	58.5	51.19
1987 F	197	14,305	1,100	15,602	100	140	80	225	15,057	58.6	46-52
<b>Veal:</b>											
1984	9	495	24	526	6	1	4	14	503	1.8	60.24
1985	14	515	20	549	4	1	7	11	526	1.8	62.42
1986	11	526	27	564	5	1	7	7	544	1.9	60.89
1987 F	7	456	25	488	4	1	7	7	469	1.6	63-69
<b>Lamb and mutton:</b>											
1984	11	379	20	410	2	3	0	7	398	1.5	62.18
1985	7	356	36	401	1	2	0	13	385	1.4	68.61
1986	13	334	39	386	1	1	0	13	371	1.4	68.46
1987 F	13	323	40	376	2	1	0	8	365	1.3	69-75
<b>Total red meat:</b>											
1984	646	39,284	2,821	42,751	501	198	202	653	41,197	143.6	NA
1985	653	39,408	3,255	43,316	461	185	192	570	41,908	144.5	NA
1986	570	39,309	3,274	43,153	598	189	206	527	41,633	141.6	NA
1987 F	527	37,880	3,315	41,722	631	202	197	565	40,127	135.7	NA
<b>Broilers:</b>											
1984	21	13,016	0	13,038	407	145	34	20	12,432	52.9	55.6
1985	20	13,762	0	13,781	417	143	34	27	13,161	55.5	50.8
1986	27	14,450	0	14,477	554	149	35	24	13,715	57.3	56.9
1987 F	24	15,284	0	15,308	700	140	36	25	14,407	59.6	50-56
<b>Mature chicken:</b>											
1984	92	672	0	764	26	2	2	119	615	2.6	NA
1985	119	636	0	755	21	1	2	144	587	2.5	NA
1986	144	671	0	815	16	3	2	163	631	2.6	NA
1987 F	163	640	0	803	20	4	1	130	648	2.7	NA
<b>Turkeys:</b>											
1984	162	2,685	0	2,847	27	7	13	125	2,676	11.4	74.4
1985	125	2,942	0	3,067	27	7	13	150	2,870	12.1	75.5
1986	150	3,287	0	3,437	25	4	10	179	3,218	13.4	72.2
1987 F	179	3,783	0	3,962	25	4	16	150	3,767	15.6	63-69
<b>Total poultry:</b>											
1984	275	16,373	0	16,648	460	153	49	264	15,722	66.9	NA
1985	264	17,339	0	17,604	465	151	49	321	16,618	70.1	NA
1986	321	18,408	0	18,729	595	156	47	365	17,565	73.4	NA
1987 F	369	19,706	0	20,076	745	148	53	305	18,825	77.9	NA
<b>Red meat &amp; poultry:</b>											
1984	921	55,657	2,821	59,399	961	351	251	917	56,919	210.5	NA
1985	917	56,747	3,255	60,920	926	336	241	891	58,526	214.6	NA
1986	891	57,717	3,274	61,882	1,194	345	253	892	59,198	215.0	NA
1987 F	896	57,586	3,315	61,749	1,376	350	250	870	58,948	213.6	NA

1/ Total including farm production for red meats and federally inspected plus non-federally inspected for poultry. 2/ Retail weight basis. 3/ Dollars per cut for red meat; cents per pound for poultry. Beef: choice steers, Omaha 900-1,100 lbs.; pork: barrows and gilts, 7 markets; veal: farm price of calves; lamb and mutton: choice slaughter lambs, San Angelo; broilers: wholesale 12-city average; turkeys: wholesale NY 8-16 lb. young hens. 4/ Carcass weight for red meats and certified ready-to-cook for poultry.  
NA = not available. F = forecast.

Information contact: Ron Gustafson, Leland Southard, or Allen Baker (202) 786-1830.



Table 11.—U.S. egg supply and use

	Beg. stocks	Pro-duction	Im-ports	Total supply	Ex-ports	Ship-ments	Mili-tary use	Hatch-ing use	Ending stocks	Civilian consumption		Wholesale Price*
										Total	Per capita	
										Million dozen		
1982	17.5	5,801.9	2.5	5,821.8	158.2	26.7	22.4	505.6	20.3	5,088.6	265.1	70.1
1983	20.3	5,659.2	23.4	5,703.0	85.8	26.6	25.1	500.0	9.3	5,056.2	260.8	75.2
1984	9.3	5,708.2	32.0	5,749.5	58.2	27.8	17.6	529.7	11.1	5,105.1	260.9	80.9
1985	11.1	5,688.4	12.7	5,712.2	70.6	30.3	20.2	548.1	10.7	5,032.2	254.7	66.4
1986 E	10.7	5,715.8	13.6	5,740.2	101.0	28.0	17.5	565.1	10.4	5,018.3	251.6	71.1
1987 F	10.5	5,765.0	12.0	5,787.5	100.0	24.0	20.0	600.0	10.0	5,033.5	249.9	64-70

\* Cartoned Grade A large eggs in New York. E = estimated. F = forecast.

Information contact: Allen Baker (202) 786-1830.

Table 12.—U.S. milk supply and use<sup>1</sup>

Calendar Year	Pro- duc- tion	Farm use	Commercial		Im- ports	Total commer- cial supply	CCC net re- movals	Commercial		All milk price 2/
			Farm market- ings	Beg. stocks				Ending stocks	Disap- pearance	
Billion pounds										\$/cwt
1980	128.4	2.4	126.1	5.4	2.1	133.6	8.8	5.8	119.0	13.05
1981	132.8	2.3	130.5	5.8	2.3	138.5	12.9	5.4	120.3	13.77
1982	135.5	2.4	133.1	5.4	2.5	141.0	14.3	4.6	122.1	13.61
1983	139.7	2.4	137.3	4.6	2.6	144.5	16.8	5.2	122.5	13.58
1984	135.4	2.9	132.5	5.2	2.7	140.5	8.6	4.9	126.9	13.46
1985	143.1	2.5	140.7	4.9	2.8	148.4	13.2	4.6	130.6	12.75
1986 P	144.1	2.3	141.8	4.6	2.7	149.0	10.6	4.2	134.2	12.48
1987 F	141.5	2.3	139.2	4.2	2.7	146.1	5.5	4.4	136.2	12.50

<sup>1</sup>/ Milkfat basis. Totals may not add because of rounding. <sup>2</sup>/ Delivered to plants and dealers; does not reflect deductions. P = preliminary. F = forecast.

Information contact: Jim Miller (202) 786-1830.

Table 13.—Poultry and eggs

	Annual			1986						1987
	1984	1985	1986	Jan	Aug	Sept	Oct	Nov	Dec	Jan
<b>Broilers</b>										
Federally inspected slaughter, certified (mil lb)	12,998.6	13,569.2	14,265.6	1,211.4	1,181.0	1,241.6	1,255.7	1,050.4	1,252.2	1,268.9
Wholesale price, 12-city, (cts/lb)	55.6	50.8	56.97	51.7	69.7	61.0	62.5	57.5	50.0	51.8
Price of grower feed (\$/ton)	233	197	NA	181	NA	NA	177	NA	NA	174
Broiler-feed price ratio 1/	2.8	3.1	NA	3.2	NA	NA	4.6	NA	NA	3.6
Stocks beginning of period (mil lb)	21.2	19.7	26.6	26.6	24.0	24.3	26.0	25.5	22.5	23.9
Broiler-type chicks hatched (mil) 2/	4,593.9	4,803.8	5,008.0	409.4	415.8	401.6	415.4	402.7	437.1	439.6
<b>Turkeys</b>										
Federally inspected slaughter, certified (mil lb)	2,574	2,800	3,132	188.0	299.5	332.4	364.8	307.1	248.0	211.9
Wholesale price, New York, 8-16 lb. young hens (cts/lb)	74.4	75.5	71.8	60.3	80.5	81.2	83.2	80.7	71.1	55.3
Price of turkey grower feed (\$/ton)	245	212	NA	209	NA	NA	215	NA	NA	210
Turkey-feed price ratio 1/	3.8	4.4	NA	3.4	NA	NA	4.9	NA	NA	3.3
Stocks beginning of period (mil lb)	161.8	125.3	150.2	150.2	388.1	449.3	511.6	543.3	249.6	178.6
Poults placed in U.S. (mil)	190.0	197.8	225.4	17.2	16.4	13.6	14.2	13.8	17.7	21.1
<b>Eggs</b>										
Farm production (mil)	68,498	68,261	68,590	5,867	5,113	5,548	5,797	5,729	6,970	5,930
Average number of layers (mil) 3/	278	277	278	234	227	229	231	233	235	237
Rate of lay (eggs per layer on farms) 3/	245	247	247	21.0	20.9	20.3	20.9	20.5	21.3	20.8
Cartoned price, New York, grade A large (cts/doz) 4/	80.9	66.4	71.1	73.3	72.8	72.6	69.6	77.2	75.5	67.1
Price of laying feed (\$/ton)	206	182	NA	181	NA	NA	166	NA	NA	164
Egg-feed price ratio 1/	6.8	6.3	NA	7.2	NA	NA	7.0	NA	NA	7.2
<b>Stocks, first of month</b>										
Shell (mil doz)	.39	.83	.72	.72	.75	.99	.87	.66	.87	.66
Frozen (mil doz)	8.9	10.2	10.0	10.0	11.5	11.4	10.6	10.6	9.9	9.8
Replacement chicks hatched (mil)	459	407	425	34.4	33.4	32.5	32.5	27.8	33.2	34.2

1/ Pounds of feed equal in value to 1 dozen eggs or 1 lb. of broiler or turkey liveweight. 2/ Placement of broiler chicks are currently reported for 12 states only; henceforth, hatch of broiler-type chicks will be used as a substitute. 3/ Monthly data only available for 20 states. 4/ Price of cartoned eggs to volume buyers for delivery to retailers. NA = not available.

Information contact: Allen Baker (202) 786-1830.



Table 14.—Dairy

	Annual			1986						1987
	1984	1985	1986	Jan	Aug	Sept	Oct	Nov	Dec	Jan
Milk prices, Minnesota-Wisconsin, 3.5% fat (\$/cwt) 1/	12.29	11.48	11.30	11.12	11.33	11.55	11.69	11.91	11.88	11.70
Wholesale prices										
Butter, Grade A Chl. (cts/lb)	148.8	141.1	144.5	138.7	153.9	154.2	153.5	151.9	145.5	137.3
Am. cheese, Wis. assembly pt. (cts/lb)	138.0	127.7	127.3	123.8	129.5	129.7	130.2	133.4	130.4	127.7
Nonfat dry milk. (cts/lb) 2/	90.9	84.0	80.6	80.4	80.6	80.6	81.2	82.0	81.4	82.0
USDA net removals										
Total milk equiv. (mil lb) 3/	8,637.0	13,174.1	10,628.1	1,968.4	111.0	172.2	90.1	7.7	390.1	1,201.3
Butter (mil lb)	202.3	334.2	287.6	70.6	-4.5	-1.5	-1.1	-1.6	9.6	45.1
Am. cheese (mil lb)	447.3	629.0	468.4	51.4	20.2	17.9	8.7	3.0	19.0	26.7
Nonfat dry milk (mil lb)	678.4	940.6	827.3	86.1	46.6	41.0	22.3	24.3	46.8	49.9
Milk										
Milk prod. 21 states (mil lb)	114,545	121,043	122,185	10,321	10,169	9,662	9,732	9,400	9,717	9,932
Milk per cow (lb)	12,691	13,160	13,445	1,106	1,133	1,080	1,090	1,056	1,095	1,123
Number of milk cows (thou)	8,026	9,198	9,088	9,336	8,974	8,950	8,932	8,900	8,873	8,845
U.S. milk production (mil lb)	135,450	143,147	144,080	12,197	6/11,930	6/11,361	6/11,460	6/11,057	6/11,430	6/11,675
Stock, beginning										
Total (mil lb)	22,646	16,704	13,695	13,695	17,974	17,126	15,978	15,089	14,097	12,867
Commercial (mil lb)	5,234	4,937	4,590	4,590	5,284	5,304	5,070	4,823	4,342	4,166
Government (mil lb)	17,412	11,767	9,104	9,105	12,690	11,822	10,907	10,266	9,755	8,702
Imports, total (mil lb) 3/	2,741	2,777	2,676	292	212	214	273	277	266	234
Commercial disappearance										
milk equiv. (mil lb)	126,912	130,630	134,233	10,154	11,814	11,447	11,693	11,617	11,285	10,260
Butter										
Production (mil lb)	1,103.3	1,247.8	1,207.6	135.8	72.3	79.2	84.6	84.0	100.9	109.2
Stocks, beginning (mil lb)	499.4	296.5	205.5	205.5	337.6	304.4	279.6	253.3	223.5	193.0
Commercial disappearance (mil lb)	902.7	918.2	928.0	60.7	75.2	80.8	83.3	95.1	93.9	60.9
American cheese										
Production (mil lb)	2,648.5	2,854.4	2,834.3	239.2	224.0	201.7	207.1	195.5	222.9	219.5
Stocks, beginning (mil lb)	1,161.5	960.5	850.2	850.2	935.7	923.0	862.4	819.3	770.8	706.1
Commercial disappearance (mil lb)	2,253.6	2,278.3	2,417.6	185.7	209.7	205.3	219.9	216.9	215.5	181.1
Other cheese										
Production (mil lb)	2,025.5	2,170.5	2,391.5	186.7	200.9	213.1	218.3	202.1	212.9	194.0
Stocks, beginning (mil lb)	104.9	101.4	94.1	94.1	100.5	100.2	99.1	93.8	91.5	92.0
Commercial disappearance (mil lb)	2,310.9	2,460.5	2,662.0	206.5	221.3	238.0	251.8	236.1	242.3	207.1
Nonfat dry milk										
Production (mil lb)	1,160.7	1,390.0	1,297.8	123.7	95.9	75.2	68.7	68.2	90.4	82.1
Stocks, beginning (mil lb)	1,405.2	1,247.6	1,011.1	1,011.1	997.2	934.4	844.9	793.4	742.6	685.8
Commercial disappearance (mil lb)	497.8	435.0	492.9	47.8	51.4	47.3	58.6	40.2	29.8	31.0
Frozen dessert										
Production (mil gal) 4/	1,241.8	1,249.0	1,273.6	82.9	126.6	107.0	99.1	81.4	81.7	79.9

1/ Manufacturing grade milk. 2/ Prices paid f.o.b. Central States production area, high heat spray process. 3/ Milk-equivalent, fat-basis. 4/ Ice cream, ice milk, and hard sherbet. 5/ Based on average milk price after adjustment for price-support deductions. 6/ Estimated. P = preliminary.

Information contact: Jim Miller (202) 786-1830.

Table 15.—Wool

	Annual			1986						1987
	1984	1985	1986	Jan	Aug	Sept	Oct	Nov	Dec	Jan
U.S. wool price, Boston 1/ (cts/lb)	229	192	191	193	190	190	190	190	190	193
Imported wool price, Boston 2/ (cts/lb)	241	197	201	204	187	184	190	199	208	211
U.S. mill consumption, scoured										
Apparel wool (thou lb)	128,982	106,051	134,989	12,627	9,919	9,956	11,820	9,947	10,788	11,053
Carpet wool (thou lb)	13,088	10,562	10,500	1,083	1,032	982	1,035	780	567	728

1/ Wool price delivered at U.S. mills, clean basis, Graded Territory 64's (20.60-22.04 microns) staple 2-3/4" and up. 2/ Wool price delivered at U.S. mills, clean basis, Australian 60/62's, type 64A (24 micron). Duty since 1982 has been 10.0 cents. NA = not available.

Information contact: John Lawler (202) 786-1840.

Table 16.—Meat animals

	Annual			1986						1987
	1984	1985	1986	Jan	Aug	Sept	Oct	Nov	Dec	Jan
<b>Cattle on feed (7-States)</b>										
Number on feed (thou head) 1/	8,006	8,635	7,920	7,920	6,331	6,404	6,811	7,546	7,826	7,633
Placed on feed (thou head)	20,772	19,346	20,005	1,581	1,802	2,103	2,403	1,814	1,405	1,561
Marketings (thou head)	18,785	18,989	19,243	1,750	1,659	1,637	1,587	1,447	1,494	1,773
Other disappearance (thou head)	1,376	1,132	1,049	87	70	59	81	87	104	127
Beef steer-corn price ratio,										
Omaha 2/	21.6	23.3	31.0	25.6	36.6	42.4	42.5	40.3	38.9	40.5
Hog-corn price ratio, Omaha 2/	16.1	17.8	27.8	19.0	39.3	42.9	39.0	35.6	33.4	32.7
<b>Market prices (\$ per cwt)</b>										
<b>Slaughter cattle:</b>										
Choice steers, Omaha	65.34	58.37	57.75	59.69	59.04	59.43	59.73	61.54	59.82	NA
Utility cows, Omaha	39.81	38.32	37.19	34.94	37.62	38.42	37.32	35.88	35.48	NA
Choice vealers, S. St. Paul	63.95	58.28	59.92	45.00	62.50	67.50	67.50	67.50	67.50	NA
<b>Feeder cattle:</b>										
Choice, Kansas City, 600-700 lb.	65.28	64.56	62.79	62.16	65.75	65.50	65.10	64.13	65.00	NA
<b>Slaughter hogs:</b>										
Barrows & gilts, 7-markets	48.86	44.77	51.19	45.48	63.39	59.01	54.21	53.62	51.42	NA
<b>Feeder pigs:</b>										
S. Mo. 40-50 lb. (per head)	39.12	37.20	45.62	30.96	56.64	59.63	53.23	50.00	47.69	NA
<b>Slaughter sheep &amp; lambs:</b>										
Lambs, Choice, San Angelo	62.18	68.61	69.46	65.81	68.12	66.38	59.65	65.42	73.33	NA
Ewes, Good, San Angelo	20.90	34.02	34.78	34.69	34.88	29.38	36.85	37.58	38.00	NA
<b>Feeder lambs:</b>										
Choice, San Angelo	61.02	85.91	73.14	77.90	80.00	83.88	81.45	83.50	89.92	NA
<b>Wholesale meat prices, Midwest</b>										
Choice steer beef, 600-700 lb.	98.01	90.76	88.98	92.26	90.98	90.50	91.80	95.70	92.04	NA
Canner & Cutter cow beef	74.70	74.13	71.31	69.71	71.50	72.60	71.44	68.92	69.58	NA
Pork loins, 8-14 lb. 3/	96.36	91.51	104.78	95.43	125.73	118.94	109.81	100.13	100.30	NA
Pork bellies, 12-14 lb.	60.08	59.50	65.82	61.27	89.10	75.64	60.32	63.30	64.72	NA
Hams, skinned, 14-17 lb	78.22	67.50	80.01	64.44	92.16	98.98	105.20	109.40	87.43	NA
<b>Commercial slaughter (thou head)*</b>										
<b>Cattle</b>	37,582	36,293	37,292	3,330	3,203	3,128	3,285	2,819	3,076	3,199
Steers	17,474	16,912	17,519	1,516	1,497	1,499	1,586	1,291	1,399	1,531
Heifers	10,691	11,237	11,098	988	1,009	957	931	792	875	1,005
Cows	8,617	7,387	7,960	765	635	608	463	679	746	608
Bulls & stags	789	758	715	61	62	64	65	57	56	55
Calves	3,297	3,385	3,407	307	278	281	295	255	289	263
<b>Sheep &amp; lambs</b>	6,759	6,165	5,632	518	443	511	511	413	454	428
<b>Hogs</b>	85,168	84,492	79,504	7,185	5,972	6,502	7,240	6,239	6,792	6,917
<b>Commercial production (mil lb)</b>										
Beef	23,418	23,557	24,215	2,139	2,077	2,050	2,146	1,808	1,971	2,102
Veal	479	499	510	46	44	43	44	37	41	39
Lamb & mutton	371	352	330	31	25	30	30	24	27	25
Pork	14,720	14,728	13,883	1,266	1,037	1,137	1,279	1,115	1,220	1,244
	Annual			1985		1986				1987
	1984	1985	1986	III	IV	I	II	III	IV	I
<b>Cattle on feed (13-States)</b>										
Number on feed (thou head) 1/	9,908	10,653	9,754	8,670	7,937	8,754	8,945	7,970	8,197	9,235
Placed on feed (thou head)	24,917	23,326	23,549	5,480	7,365	5,270	5,221	6,336	6,726	---
Marketings (thou head)	22,540	22,887	22,836	5,969	5,224	5,763	5,821	5,876	5,376	5/
5,569										
Other disappearance (thou head)	1,632	1,398	1,236	244	324	316	375	233	312	---
<b>Hogs &amp; pigs (10-States) 4/</b>										
Inventory (thou head) 1/	42,420	41,100	39,670	41,650	41,820	41,100	38,210	37,845	39,335	39,670
Breeding (thou head) 1/	5,348	5,258	5,050	5,397	5,377	5,258	4,948	4,840	4,840	5,050
Market (thou head) 1/	37,072	35,842	34,620	36,253	36,443	35,842	33,262	33,005	34,495	34,620
Farrowings (thou head)	9,020	8,831	8,208	2,191	2,265	1,863	2,161	2,034	2,150	5/
1,872										
Pig crop (thou head)	67,680	67,648	63,714	16,941	17,255	14,254	16,878	15,853	16,729	---

1/ Beginning of period. 2/ Bushels of corn equal in value to 100 pounds live-weight. 3/ Beginning January 1984 prices are for 14-17 lbs.; January 1986 prices are for 14-18 lbs. 4/ Quarters are Dec. of preceding year-Feb. (I), Mar.-May (II), June-Aug. (III), and Sept.-Nov. (IV). 5/ Intentions. \*Classes estimated. NA = not available.

Information contact: Ron Gustafson or Leland Southard (202) 786-1830.



Table 17.—Supply and utilization<sup>1,2</sup>

	Area			Yield	Production	Total supply	Feed and resid- ual	Other domes- tic use	Ex- ports	Total use	Ending stocks	Farm Price
	Set aside 3/	Planted	Harves- ted									
	Mill. acres			Bu/acre				Mill. bu				\$/bu
<b>Wheat</b>												
1981/82	0	88.3	80.6	34.5	2,785	3,777	135	712	1,771	2,618	1,159	3.69
1982/83	5.8	86.2	77.9	35.5	2,765	3,832	195	713	1,509	2,417	1,515	3.45
1983/84	30.0	76.4	61.4	39.4	2,420	3,939	369	742	1,429	2,540	1,399	3.51
1984/85*	18.6	79.2	66.9	38.8	2,595	4,003	405	749	1,424	2,578	1,425	3.39
1985/86*	18.6	75.6	64.7	37.5	2,425	3,865	273	771	915	1,960	1,905	3.68
1986/87*	20.5	72.0	60.7	34.4	2,087	4,007	325	780	1,025	2,130	1,877	2.30-2.40
<b>Rice</b>												
	Mill. acres			lb/acre				Mill. cwt (rough equiv.)				\$/cwt
1981/82	0	3.83	3.79	4,819	182.7	199.6	--	6/ 78.1	82.0	150.6	49.0	9.05
1982/83	0.42	3.30	3.26	4,710	153.6	203.4	--	6/ 62.9	68.9	131.8	71.5	7.91
1983/84	1.74	2.19	2.17	4,598	99.7	171.9	--	6/ 54.7	70.3	125.0	46.9	8.57
1984/85*	.79	2.83	2.80	4,954	138.8	187.3	--	6/ 60.5	62.1	122.6	64.7	8.04
1985/86*	1.24	2.51	2.49	5,414	134.9	201.8	--	6/ 65.8	58.7	124.5	77.3	6.53
1986/87*	1.26	2.40	2.38	5,648	134.4	213.9	--	6/ 67.0	80.0	147.0	66.9	3.45-4.25
<b>Corn</b>												
	Mill. acres			Bu/acre				Mill. bu				\$/bu
1981/82	0	84.1	74.5	108.9	8,119	8,512	4,169	796	2,010	6,975	2,537	2.47
1982/83	2.1	81.9	72.7	113.2	8,235	10,772	4,521	894	1,834	7,249	3,523	2.55
1983/84	32.2	60.2	51.5	81.1	4,175	7,700	3,818	975	1,901	6,694	1,006	3.21
1984/85*	3.9	80.5	71.8	106.7	7,674	8,684	4,116	1,055	1,865	7,036	1,648	2.63
1985/86*	5.4	83.4	75.2	118.0	8,877	10,536	4,126	1,129	1,241	6,486	4,040	2.23
1986/87*	13.0	76.7	69.2	119.3	8,253	12,295	4,300	1,150	1,250	6,700	5,595	1.35-1.65
<b>Sorghum</b>												
	Mill. acres			Bu/acre				Mill. bu				\$/bu
1981/82	0	15.9	13.7	64.0	876	1,006	417	10	260	687	319	2.25
1982/83	0.7	16.0	14.1	59.1	835	1,154	495	10	210	715	439	2.47
1983/84	5.7	11.8	10.0	48.7	488	927	385	10	245	640	287	2.74
1984/85*	.6	17.3	15.4	56.4	866	1,154	539	18	297	854	300	2.32
1985/86*	.9	18.3	16.8	66.8	1,120	1,420	662	29	178	869	551	1.83
1986/87*	2.5	15.3	13.9	67.7	942	1,483	575	30	225	830	663	1.30-1.50
<b>Barley</b>												
	Mill. acres			Bu/acre				Mill. bu				\$/bu
1981/82	0	9.6	9.0	52.4	474	621	198	175	100	473	148	2.48
1982/83	0.4	9.5	9.0	57.2	516	675	241	170	47	458	217	2.18
1983/84	1.1	10.4	9.7	52.3	509	733	282	170	92	544	189	2.47
1984/85*	.5	12.0	11.2	53.4	599	798	304	170	77	551	247	2.29
1985/86*	.7	13.2	11.6	51.0	591	847	333	167	22	522	325	1.98
1986/87*	1.8	13.1	12.0	50.8	610	941	300	175	150	625	316	1.45-1.65
<b>Oats</b>												
	Mill. acres			Bu/acre				Mill. bu				\$/bu
1981/82	0	13.6	9.4	54.2	510	689	453	77	7	537	152	1.88
1982/83	0.1	14.0	10.3	57.8	593	748	441	85	3	529	220	1.49
1983/84	.3	20.3	9.1	52.6	477	727	466	78	2	546	181	1.62
1984/85*	.1	12.4	8.2	58.0	474	689	433	74	1	509	180	1.67
1985/86*	.1	13.3	8.2	63.7	521	729	460	83	2	545	184	1.23
1986/87*	0.7	14.7	6.9	56.0	385	598	400	85	2	487	111	1.00-1.20
<b>Soybeans</b>												
	Mill. acres			Bu/acre				Mill. bu				\$/bu
1981/82	0	67.5	56.2	30.1	1,989	2,302	7/ 89	1,030	929	2,048	254	6.04
1982/83	0	70.9	69.4	31.5	2,180	2,444	7/ 86	1,108	905	2,099	345	5.68
1983/84	0	63.8	62.5	26.7	1,636	1,881	7/ 79	983	743	1,805	176	7.89
1984/85*	0	67.8	66.1	28.1	1,861	2,037	7/ 93	1,030	598	1,721	316	5.84
1985/86*	0	63.1	61.6	34.1	2,099	2,415	7/ 86	1,063	740	1,879	536	5.05
1986/87*	0	61.5	59.4	33.8	2,007	2,543	7/ 93	1,115	700	1,908	635	4.50-4.80
<b>Soybean oil</b>												
								Mill. lbs				¢/lb
1981/82	--	--	--	--	10,979	12,715	--	9,536	2,077	11,612	1,103	19.0
1982/83	--	--	--	--	12,041	13,144	--	8,858	2,025	11,883	1,261	20.6
1983/84	--	--	--	--	10,872	12,133	--	9,588	1,824	11,412	721	30.6
1984/85*	--	--	--	--	11,468	12,209	--	9,917	1,660	11,577	632	29.5
1985/86*	--	--	--	--	11,617	12,257	--	10,053	1,257	11,310	947	18.0
1986/87*	--	--	--	--	12,103	13,050	--	10,500	1,350	11,850	1,200	14.0-18.0
<b>Soybean meal</b>												
								Thou. tons				¢/ton
1981/82	--	--	--	--	24,634	24,797	--	17,714	5,908	24,622	175	183
1982/83	--	--	--	--	26,714	26,889	--	19,306	7,109	26,415	474	187
1983/84	--	--	--	--	22,756	23,230	--	17,615	5,360	22,975	255	188
1984/85*	--	--	--	--	24,528	24,784	--	19,480	4,917	24,397	387	125
1985/86*	--	--	--	--	24,951	25,338	--	19,118	6,008	25,126	212	155
1986/87*	--	--	--	--	26,203	26,418	--	19,750	6,350	26,100	315	140-155

See footnotes at end of table.

Table 17.— Supply and utilization, continued

	Area			Yield	Production	Total supply 4/	Feed and residual	Other domestic use	Exports	Total use	Ending stocks	Farm price 5/
	Set aside 3/	Planted	Harvested									
	Mill. acres			lb/acre								¢/lb
Cotton 10/												
1981/82	0	14.3	13.8	542	15.6	18.3	--	5.3	6.6	11.8	6.6	55.4
1982/83	1.6	11.3	9.7	590	12.0	18.6	--	5.5	5.2	10.7	7.9	59.5
1983/84	6.8	7.9	7.3	508	7.8	15.7	--	5.9	6.8	12.7	2.8	65.3
1984/85*	2.5	11.1	10.4	600	13.0	15.8	--	5.5	6.2	11.8	4.1	58.7
1985/86*	3.6	10.7	10.2	630	13.4	17.6	--	6.4	2.0	8.4	9.4	56.8
1986/87*	3.6	10.1	8.5	553	9.8	19.1	--	7.0	6.8	13.8	5.5	--

\*March 9, 1987 Supply and Demand Estimates. 1/ Marketing year beginning June 1 for wheat, barley, and oats; August 1 for cotton and rice; September 1 for soybeans, corn, and sorghum; October 1 for soybean oil and soybean meal. 2/ Conversion factors: Hectare (ha.) = 2.471 acres; 1 metric ton = 2,204.622 pounds; 36.7437 bushels of wheat or soybeans; 39.3679 bushels of corn or sorghum; 45.9296 bushels of barley; 68.8844 bushels of oats; 22.046 cwt. of rice; and 4.59 480-pound bales of cotton. 3/ Includes diversion, PIK, and acreage reduction programs. 4/ Includes imports. 5/ Market average prices do not include an allowance for loans outstanding and Government purchases. 6/ Residual included in domestic use. 7/ Includes seed. 8/ Average of crude soybean oil, Decatur. 9/ Average of 44 percent, Decatur. 10/ Upland and extra long staple. Stock estimates based on Census Bureau data which results in an unaccounted difference between supply and use estimates and changes in ending stocks.

Information Contact: National Economic Division, Crops Branch (202) 786-1840.

Table 18.—Food grains

	Marketing year 1/				1988					1987
	1982/83	1983/84	1984/85	1985/86	Jan	Sept	Oct	Nov	Dec	Jan
<b>Wholesale prices</b>										
Wheat, No. 1 HRW, Kansas City (\$/bu) 2/	3.94	3.84	3.74	3.28	3.32	2.53	2.60	2.68	2.68	2.70
Wheat, DNS, Minneapolis (\$/bu) 2/	3.95	4.21	3.70	3.25	3.38	2.64	2.70	2.81	2.77	2.82
Rice, S.W. L. (\$/cwt) 3/	18.00	19.38	17.98	16.11	17.50	10.25	10.25	9.94	10.13	10.13
<b>Wheat</b>										
Exports (mil bu)	1,509	1,429	1,424	915	75	104	92	68	58	77
Mill grind (mil bu)	656	694	676	707	61	67	70	67	64	NA
Wheat flour production (mil cwt)	292	308	301	317	27	30	31	29	29	NA
<b>Rice</b>										
Exports (mil cwt, rough equiv)	68.9	70.3	62.1	58.7	4.0	11.7	7.8	6.4	4.6	5.2
	Marketing year 1/				1985		1988			
	1983/84	1984/85	1985/86	Apr-May	June-Sept	Oct-Dec	Jan-Mar	Apr-May	June-Aug	Sept-Nov
<b>Wheat</b>										
Stocks, beginning (mil bu)	1,515	1,399	1,425	1,667	1,425.2	2,971.1	2,526.1	2,130.0	1,905.0	3,154.6
<b>Domestic use:</b>										
Food (mil bu)	643	651	678	105.8	223.7	176.8	166.9	110.7	171.1	187.7
Feed & seed (mil bu) 4/	469	502	371	-1.2	334.7	24.9	4.9	1.8	349.8	42.0
Exports (mil bu)	1,429	1,424	915	139.1	326.6	247.3	226.1	115.3	320.6	264.2

1/ Beginning June 1 for wheat and August 1 for rice. 2/ Ordinary protein. 3/ Long-grain, milled basis. 4/ Feed use approximated by residual. NA = not available.

Information contacts: Allen Schienbain and Janet Livezey (202) 786-1840.

Table 19.—Cotton

	Marketing year 1/				1988					1987
	1982/83	1983/84	1984/85	1985/88	Jan	Sept	Oct	Nov	Dec	Jan
<b>U.S. price, SLM, 1-1/16 in. (cts/lb) 2/</b>										
	63.1	73.1	60.5	60.0	58.4	33.6	44.0	45.7	54.2	57.2
<b>Northern Europe prices:</b>										
Index (cts/lb) 3/	76.7	87.6	69.2	48.9	51.8	43.5	51.2	52.8	59.2	65.7
U.S. M 1-3/32" (cts/lb) 4/	78.0	87.1	73.9	64.8	69.2	44.7	52.4	54.3	62.1	65.3
U.S. mill consumption (thou bales)	5,512.8	5,927.0	5,544.5	6,398.9	573.9	602.9	660.4	554.4	555.5	624.1
Exports (thou bales)	5,206.8	6,786.0	6,201.3	1,969.2	186.0	374.1	341.8	571.3	543.7	612.5
Stocks, beginning (thou bales)	6,632	7,937	2,775	4,102	13,274	9,184	10,049	12,053	13,207	13,248

1/ Beginning August 1. 2/ Average spot market. 3/ Liverpool Outlook "A" index; average of five lowest priced of 10 selected growths. 4/ Memphis territory growths.

Information contact: Bob Skinner (202) 786-1840.



Table 20.—Feed grains

	Marketing year 1/				1986					1987
	1982/83	1983/84	1984/85	1985/86	Jan	Sept	Oct	Nov	Dec	Jan
<b>Wholesale prices</b>										
Corn, No. 2 yellow, Chicago (\$/bu)	2.81	3.46	2.75	2.35	2.51	1.49	1.51	1.68	1.66	1.57
Sorghum, No. 2 yellow, Kansas City (\$/cwt)	4.80	5.22	4.46	3.72	3.85	2.47	2.60	2.70	2.62	2.50
Barley, feed, Minneapolis (\$/bu)	1.76	2.48	2.09	1.53	1.57	1.27	1.50	1.63	1.23	--
Barley, malting, Minneapolis (\$/bu)	2.53	2.84	2.55	2.24	2.28	1.76	1.93	2.02	1.88	1.81
<b>Exports</b>										
Corn (mil bu)	1,834	1,902	1,865	1,241	166	81	125	115	111	104
Feed grains (mil metric tons) 2/	53.0	56.5	56.6	36.6	4.7	2.7	4.1	3.6	3.6	3.1

	Marketing year 1/				1985		1986			
	1982/83	1983/84	1984/85	1985/86	June-Aug	Sept-Nov	Dec-Feb	Mar-May	June-Aug	Sept-Nov
<b>Corn</b>										
Stocks, beginning (mil bu)	2,537	3,523	1,006	1,648	2,836	1,648	8,615	6,587	4,990	4,040
Domestic use:										
Feed (mil bu)	4,521	3,818	4,116	4,126	612	1,222	1,305	1,093	507	1,394
Food, seed, ind. (mil bu)	895	975	1,055	1,129	280	272	259	302	296	275
Exports (mil bu)	1,834	1,902	1,865	1,241	296	418	465	204	154	321
Total use (mil bu)	7,249	6,694	7,036	6,496	1,188	1,911	2,029	1,599	956	1,990

1/ September 1 for corn and sorghum; June 1 for oats and barley. 2/ Aggregated data for corn, sorghum, oats, and barley.

Information contacts: Dave Hull (202) 786-1840; Jim Cole (202) 786-1693.

Table 21.—Fats and oils

	Marketing year 1/				1986					1987
	1982/83	1983/84	1984/85	1985/86	Jan	Sept	Oct	Nov	Dec	Jan
<b>Soybeans</b>										
Wholesale price, No. 1 yellow, Chicago (\$/bu) 2/	6.11	7.78	5.88	5.20	5.36	4.74	4.74	4.96	4.88	4.90
Crushings (mil bu)	1,107.8	882.7	1,030.5	1,052.8	99.6	79.4	107.0	109.3	107.6	110.3
Exports (mil bu)	905.2	742.8	598.2	740.0	84.7	30.2	89.7	96.6	88.2	71.3
Stocks, beginning (mil bu)	254.5	344.6	175.7	316.0	119.8	28.5	38.3	108.1	127.4	117.2
<b>Soybean oil</b>										
Wholesale price, crude, Decatur (cts/lb)	20.62	30.55	29.52	18.0	20.63	13.94	14.63	14.88	14.94	15.55
Production (mil lb)	12,040.4	10,872.0	11,467.9	11,620.4	1,085.8	889.3	1,166.5	1,171.5	1,150.2	1,185.6
Domestic disp. (mil lb)	8,857.3	9,598.6	9,916.7	10,062.8	807.2	877.6	999.1	867.5	888.4	785.0
Exports (mil lb)	2,024.7	1,813.6	1,659.8	1,257.2	80.6	223.4	146.5	27.4	25.3	67.9
Stocks, beginning (mil lb)	1,102.5	1,260.9	720.5	632.5	969.4	1,152.2	946.6	963.6	1,268.9	1,506.5
<b>Soybean meal</b>										
Wholesale price, 44% protein, Decatur (\$/ton)	187.19	188.21	125.46	154.90	153.25	165.20	165.40	154.00	149.60	146.80
Production (thou ton)	26,713.6	22,756.2	24,529.3	24,957.8	2,343.8	1,878.7	2,521.3	2,562.8	2,527.3	2,540.7
Domestic disp. (thou ton)	19,306.0	17,615.2	19,481.7	19,122.3	1,739.5	1,644.6	2,005.8	1,575.4	1,788.7	1,944.7
Exports (thou ton)	7,108.7	5,359.7	4,916.5	6,007.0	590.3	312.9	511.5	818.4	877.7	592.8
Stocks, beginning (thou ton)	175.2	474.1	255.4	387.0	358.4	298.3	211.7	218.0	387.3	240.3
<b>Margarine, wholesale price, Chicago, white (cts/lb)</b>	41.1	46.3	55.4	42.1	43.99	38.00	38.69	38.88	38.55	39.25

1/ Beginning September 1 for soybeans; October 1 for soybean meal and oil; calendar year for margarine. 2/ Beginning April 1, 1982. Prices based on 30-day delivery, using upper end of the range.

Information contacts: Roger Hoskin (202) 786-1840; Tom Bickerton (202) 786-1691.

Table 22.—Fruit

	Calendar years											
	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986 F
<b>Citrus</b>												
Production (thou ton)	14,586	14,788	15,242	14,255	13,329	16,484	15,105	12,057	13,608	10,792	10,488	5/
11,881												
Per capita consumption (lbs) 1/	119.5	117.8	118.8	108.1	108.8	113.1	104.7	110.0	120.7	103.2	115.4	119.4
<b>Non citrus</b>												
Production (thou tons)	12,384	11,846	12,274	12,460	13,689	15,152	12,961	14,217	14,154	14,280	14,230	13,934
Per capita consumption (lbs) 1/	85.5	84.4	84.8	83.3	85.9	87.4	88.2	89.3	89.2	93.4	95.1	94.0
<b>1988</b>												<b>1987</b>
	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan
<b>Fob shipping point prices</b>												
Apples (\$/carton) 2/	15.00	14.85	15.62	18.10	18.50	22.86	NA	11.03	13.70	13.63	14.00	10.67
Pears 1\$/box 3/	15.59	15.50	NA	24.18	25.70	NA	14.67	14.00	15.00	15.10	14.50	16.00
Oranges 1\$/box 4/	3.71	3.85	3.79	4.19	4.27	3.63	4.03	4.34	4.47	6.58	4.24	4.24
Grapefruit (\$/box) 4/	3.76	3.94	4.22	5.20	5.98	6.17	6.76	6.63	6.28	4.19	4.54	4.50
<b>Stocks, ending</b>												
Fresh apples (mil lbs)	1,550.2	1,039.3	612.6	267.2	118.8	25.4	7.9	2,349.5	4,142.7	3,532.2	2,891.7	2,307.2
Fresh pears (mil lbs)	101.3	71.6	35.5	4.9	7	75.0	124.4	325.1	333.2	281.2	214.7	170.8
Frozen fruits (mil lbs)	597.1	544.6	496.9	461.4	558.1	719.6	741.1	740.7	855.6	771.5	720.9	639.2
Frozen orange juice (mil lbs)	966.8	911.5	1,031.6	1,047.5	1,056.9	920.3	855.3	715.4	577.6	524.8	621.2	879.2

1/ Per capita consumption of both fresh and processed fruit in fresh weight equivalent. Eighteen fruit items are not included in this year's new per capita consumption series. 2/ Red Delicious, Washington, extra fancy, carton tray pack, 80-113's. 3/ D'Anjou, Washington, standard box wrapped, U.S. No. 1, 90-135's. 4/ U.S. equivalent on-tree returns. 5/ As of March 1, 1987. NA = not available.  
F = forecast.

Information contact: Ben Huang (202) 786-1767

Table 23.—Vegetables

	Calendar Years												
	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986			
Production													
Total vegetables (1,000 cwt) 1/	402.936	382.165	413.925	381.370	379.123	431.515	403.320	457.392	453.769	445.436			
Fresh (1,000 cwt) 1/ 2/	176.541	182.563	190.859	190.228	194.694	207.924	197.919	217.132	217.932	213.724			
Processed (tons) 3/	11,319.750	9,980.100	11,153.300	9,557.100	9,221.460	11,179.590	10,270.050	12,013.020	11,791.860	11,585.630			
Mushrooms (1,000 lbs)	398.703	454.007	470.069	469.576	517.146	490.825	561.531	595.681	587.956	NA			
Potatoes (1,000 cwt)	355.334	366.314	342.447	302.857	338.591	355.131	333.911	362.612	407.109	352.274			
Sweetpotatoes (1,000 cwt)	11.885	13.115	13.370	10.953	12.799	14.833	12.083	12.986	14.853	12.754			
Dry edible beans (1,000 cwt)	16.555	18.935	20.552	26.729	32.751	25.563	15.520	21.070	22.175	22.898			
1988													
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	1987
Shipments													
Fresh (1,000 cwt) 4/	22,189	16,643	17,454	18,210	32,927	26,825	27,818	17,579	15,174	19,275	15,967	15,766	20,548
Potatoes (1,000 cwt)	12,965	10,726	11,953	13,604	16,037	9,882	7,757	8,066	7,907	11,332	9,928	10,836	14,474
Sweetpotatoes (1,000 cwt)	352	313	413	227	250	177	160	96	246	428	786	389	279

1/ 1983 data are not comparable with 1984 and 1985. 2/ Estimate reinstated for asparagus with the 1984 crop, all other years also include broccoli, carrots, cauliflower, celery, sweet corn, lettuce, honeydews, onions, and tomatoes. 3/ Estimates reinstated for cucumbers with the 1984 crop, all other years also include snap beans, sweet corn, green peas, and tomatoes. 4/ Includes snap beans, broccoli, cabbage, carrots, cauliflower, celery, sweet corn, cucumbers, eggplant, lettuce, onions, bell peppers, squash, tomatoes, cantaloupes, honeydews, and watermelons. NA = not available.

Information contact: Shannon Hama (202) 786-1767.

Table 24.—Other commodities

	Annual					1985		1986			
	1982	1983	1984	1985	1986 F	Oct-Dec	Jan-Mar	Apr-June	July-Sept	Oct-Dec	
<b>Sugar</b>											
Production 1/	5,936	5,682	5,890	5,969	6,275	2,992	1,619	746	2,292	3,997	
Deliveries 1/	9,153	8,812	8,454	8,035	7,810	2,004	1,834	1,913	2,069	1,993	
Stocks, ending 1/	3,068	2,570	3,005	3,126	3,130	3,126	3,384	2,552	1,652	3,475	
<b>Coffee</b>											
Composite green price N.Y. (cts/lb)	132.00	131.51	142.95	137.46	185.18	152.81	215.33	190.79	174.92	159.69	
Imports, green bean equiv. (million lbs) 2/	2,352	2,259	2,411	2,550	2,596	612	810	653	635	498	
<b>1988</b>											<b>1987</b>
	1984	1985	1986	Nov	June	July	Aug	Sept	Oct	Nov	
<b>Tobacco</b>											
Prices at auctions 3/											
Flue-cured (dol/lb)	1.81	1.72	1.52	1.65	NQ	NQ	1.44	1.60	1.50	1.40	
Burley (dol/lb)	1.88	1.59	1.57	1.60	NQ	NQ	NQ	NQ	NQ	1.58	
Domestic consumption 4/											
Cigarettes (bil)	600.4	584.0	584.0	49.8	56.0	38.4	51.4	50.8	52.0	49.0	
Large cigars (mil)	3,493	3,226	3,090	273.9	281.2	270.4	251.7	272.3	268.5	220.9	

1/ 1,000 short tons, raw value. Quarterly data shown at end of each quarter. 2/ Green and processed coffee. 3/ Crop year July-June for flue-cured, October-September for burley. 4/ Taxable removals. F = forecast. NQ = no quote.

Information contact: (sugar) Dave Harvey (202) 786-1769; (coffee) Fred Gray (202) 786-1769; (tobacco) Verner Grise (202) 786-1840.



Table 25.—World supply and utilization of major crops, livestock and products

	1980/81	1981/82	1982/83	1983/84	1984/85 E	1985/86 P	1986/87 F
	Million units						
<b>Wheat</b>							
Area (hectare)	237.0	238.7	237.7	229.1	231.4	229.8	228.1
Production (metric ton)	443.0	449.5	477.5	489.5	511.6	499.8	528.4
Exports (metric ton) 1/	94.1	101.3	98.7	102.0	106.9	95.0	88.3
Consumption (metric ton) 2/	445.8	443.6	462.2	482.3	495.3	488.2	514.9
Ending stocks (metric ton) 3/	78.2	87.0	102.3	109.5	125.8	136.5	150.0
<b>Coarse grains</b>							
Area (hectare)	342.4	349.9	339.7	335.3	335.5	339.6	336.7
Production (metric ton)	732.9	766.0	784.4	687.7	814.1	844.8	838.8
Exports (metric ton) 1/	108.0	96.6	89.6	91.2	100.7	83.4	84.2
Consumption (metric ton) 2/	745.1	737.7	752.6	762.2	783.6	772.1	793.6
Ending stocks (metric ton) 3/	90.6	120.7	152.5	77.9	108.4	181.1	226.3
<b>Rice, milled</b>							
Area (hectare)	144.5	145.2	141.1	144.3	144.4	144.2	144.3
Production (metric ton)	271.0	280.6	285.7	308.0	319.2	320.0	318.9
Exports (metric ton) 4/	13.1	11.8	11.9	12.6	11.5	12.9	11.5
Consumption (metric ton) 2/	272.3	281.5	290.1	308.8	314.3	317.5	321.9
Ending stocks (metric ton) 3/	22.1	21.3	17.3	17.2	22.2	24.8	21.8
<b>Total grains</b>							
Area (hectare)	723.9	733.8	718.5	708.7	711.3	713.6	709.1
Production (metric ton)	1,446.9	1,496.1	1,547.6	1,485.2	1,644.9	1,663.6	1,686.1
Exports (metric ton) 1/	215.2	209.7	200.2	205.8	219.1	181.3	184.0
Consumption (metric ton) 2/	1,463.2	1,462.8	1,504.9	1,553.3	1,593.2	1,577.8	1,630.4
Ending stocks (metric ton) 3/	190.9	229.0	272.1	204.6	256.4	342.4	398.1
<b>Oilseeds</b>							
Crush (metric ton)	128.8	138.9	143.4	136.8	150.8	154.2	155.2
Production (metric ton)	154.9	169.4	178.3	165.7	191.0	195.7	196.5
Exports (metric ton)	31.3	35.9	35.2	33.0	32.8	34.0	34.7
Ending stocks (metric ton)	15.8	13.5	20.5	15.8	21.1	26.3	30.1
<b>Meale</b>							
Production (metric ton)	88.8	94.5	98.0	92.8	101.7	103.8	105.3
Exports (metric ton)	26.9	28.8	31.6	29.6	32.3	33.6	34.0
<b>Oils</b>							
Production (metric ton)	39.1	41.6	43.4	42.5	46.3	49.5	49.2
Exports (metric ton)	12.6	13.4	14.0	13.7	15.6	16.4	16.1
<b>Cotton</b>							
Area (hectare)	32.1	33.0	31.4	31.0	33.9	31.7	29.9
Production (bale)	65.0	71.2	68.0	67.7	88.1	78.9	69.7
Exports (bale)	19.7	20.2	19.4	19.2	20.5	20.3	23.5
Consumption (bale)	65.8	66.0	68.1	68.5	69.9	74.8	77.1
Ending stocks (bale)	21.3	21.1	25.9	25.0	43.1	48.1	40.0
	1981	1982	1983	1984	1985	1986 F	1987 F
<b>Red meat</b>							
Production (mil metric tons)	93.6	93.9	96.4	98.1	101.8	102.3	102.8
Consumption (mil metric tons)	92.0	92.2	94.7	96.1	99.4	100.7	101.0
Exports (mil metric tons) 1/	5.7	5.8	5.8	5.9	6.3	6.1	6.4
<b>Poultry</b>							
Production (mil metric tons)	22.5	23.1	23.5	24.2	25.2	26.1	27.3
Consumption (mil metric tons)	22.1	22.7	23.5	24.0	24.8	25.6	26.8
Exports (mil metric tons) 1/	1.5	1.4	1.3	1.2	1.2	1.2	1.3
<b>Dairy</b>							
Milk production	389.7	396.9	412.5	413.0	417.9	423.2	423.2

E = estimated. P = projected. F = forecast. 1/ Excludes intra-EC trade. 2/ Where stocks data not available (excluding USSR), consumption includes stock changes. 3/ Stocks data are based on differing marketing years and do not represent levels at a given date. Data not available for all countries; includes estimated change in USSR grain stocks but not absolute level. 4/ Calendar year data. 1981 data correspond with 1980/81, etc.

Information contact: Frederic Suris (202) 786-1693.

# U.S. Agricultural Trade

Table 26.—Prices of principal U.S. agricultural trade products

	Annual			1988						1987
	1984	1985	1988	Jan	Aug	Sept	Oct	Nov	Dec	Jan
<b>Export commodities</b>										
Wheat, f.o.b. vessel,										
Gulf ports (\$/bu)	4.17	3.73	3.19	3.63	2.82	2.83	2.86	2.90	2.97	3.00
Corn, f.o.b. vessel, Gulf ports (\$/bu)	3.50	2.89	2.27	2.75	1.89	1.71	1.69	1.89	1.89	1.77
Grain sorghum,										
f.o.b. vessel, Gulf ports (\$/bu)	3.00	2.64	2.16	2.51	1.70	1.73	1.81	1.89	1.84	1.75
Soybeans, f.o.b. vessel, Gulf ports (\$/bu)	7.38	5.83	5.45	5.72	5.38	5.37	5.13	5.24	5.14	5.13
Soybean oil, Decatur (cts/lb)	30.75	27.03	16.36	20.27	14.16	13.84	14.61	14.66	14.68	15.45
Soybean meal, Decatur (\$/ton)	166.80	127.15	157.62	152.55	164.76	166.19	152.85	154.05	149.54	147.65
Cotton, 8 market avg. spot (cts/lb)	68.37	58.55	53.47	58.39	26.81	33.56	43.91	45.75	54.15	57.17
Tobacco, avg. price at auction (cts/lb)	170.64	172.05	154.26	163.65	142.95	151.92	145.48	146.40	146.40	144.90
Rice, f.o.b. mill, Houston (\$/cwt)	19.47	18.49	14.60	17.88	13.00	13.00	13.00	13.00	13.00	11.13
Inedible tallow, Chicago (cts/lb)	17.47	14.33	9.03	12.00	7.81	8.10	8.44	8.47	9.40	10.69
<b>Import commodities</b>										
Coffee, N.Y. spot (\$/lb)	1.46	1.42	2.01	2.41	1.85	2.03	1.87	1.67	1.46	1.27
Rubber, N.Y. spot (cts/lb)	49.70	41.91	42.87	40.74	43.45	45.29	46.87	44.78	44.67	45.93
Cocoa beans, N.Y. (\$/lb)	1.06	.99	.88	1.01	.89	.96	.91	.87	.86	.86

Information contact: Mary Teymourian (202) 786-1692.

Table 27.—Indexes of nominal and real trade-weighted dollar exchange rates<sup>1</sup>

	1988										1987	
	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb
1980=100												
<b>Total U.S. trade</b>												
Nominal	126	125	123	124	NA	NA	NA	NA	NA	NA	NA	NA
Real	127	126	124	125	NA	NA	NA	NA	NA	NA	NA	NA
Apr 11 1971=100												
<b>Agricultural trade</b>												
Nominal 1/	4,495	4,500	4,511	4,498	4,567	4,661	4,680	4,733	4,794	4,903	5,238	6,102
Real 2/	86	85	84	85	85	87	87	89*	90*	89*	86*	86*
<b>Soybeans</b>												
Nominal 1/	105	105	103	103	161	250	266	280	294	305	314	327
Real 2/	76	76	74	75	75	75	75	75*	76*	75*	72*	71*
<b>Wheat</b>												
Nominal 1/	26,425	26,457	26,533	26,449	26,499	26,501	26,514	26,733	27,020	27,616	29,557	34,601
Real 2/	102	101	100	101	100	102	102	109*	110*	108*	107*	109*
<b>Corn</b>												
Nominal 1/	4,081	4,086	4,095	4,083	4,172	4,287	4,320	4,369	4,430	4,534	4,842	5,631
Real 2/	79	78	77	77	78	80	80	80*	81*	80*	77*	76*
<b>Cotton</b>												
Nominal 1/	228	227	226	233	231	230	233	236	237	237	234	233
Real 2/	94	93	92	92	91	90	91	92*	92*	92*	90*	90*

1/ Nominal values are percentage changes in currency units per dollar, weighted by proportion of agricultural exports from the United States. An increase indicates that the dollar has appreciated. 2/ Real values are computed in the same way as the nominal series, adjusted for CPI changes in the countries involved.

\*Preliminary; assumes the same rate of CPI increase/decrease as the previous six months. NA = Not available.

Information contact: Edward Wilson (202) 786-1688.

Table 28.—Trade balance

	Fiscal years*									Jan
	1979	1980	1981	1982	1983	1984	1985	1986	1987 F	1987
	\$ million									
Exports										
Agricultural	31,979	40,481	43,780	39,095	34,769	38,027	31,201	26,325	26,000	2,236
Nonagricultural	135,839	169,846	185,423	176,310	159,373	170,014	179,236	176,613	NA	13,590
Total 1/	167,818	210,327	229,203	215,405	194,142	208,041	210,437	202,938	NA	15,826
Imports										
Agricultural	16,186	17,276	17,218	15,481	16,271	18,916	19,740	20,875	20,000	1,605
Nonagricultural	177,424	223,590	237,469	233,353	230,629	297,736	313,722	342,855	NA	27,899
Total 2/	193,610	240,866	254,687	248,834	246,900	316,652	333,462	363,730	NA	29,504
Trade balance										
Agricultural	15,793	23,205	26,562	23,614	18,498	19,111	11,461	5,450	6,000	631
Nonagricultural	-41,585	-53,744	-52,046	-57,043	-71,256	-127,722	-134,486	-166,242	NA	-14,309
Total	-25,792	-30,539	-25,484	-33,429	-52,758	-108,611	-123,025	-160,792	NA	-13,678

\*Fiscal years begin October 1 and end September 30. Fiscal year 1986 began Oct. 1, 1985 and ended Sept. 30, 1986.

1/ Domestic exports including Department of Defense shipments (F.A.S. value). 2/ Imports for consumption (customs value). NA = not available. F = forecast.

Information contact: Steve MacDonald (202) 786-1621.



Table 29.—U.S. agricultural exports and imports

	Fiscal years*					Jan	Fiscal years*					Jan
	1984	1985	1986	1987 F	1987	1984	1985	1986	1987 F	1987		
	Thousand units						\$ million					
Exports												
Animals, live (no) 1/	754	996	570	--	17	276	255	344	--	22		
Meats & Preps., excl. poultry (mt)	422	427	451	2/ 400	50	929	906	1,012	--	110		
Dairy products (mt)	418	423	481	--	23	393	414	430	400	24		
Poultry meats (mt)	225	234	265	300	30	280	257	282	--	34		
Fats, oils, & greases (mt)	1,355	1,217	1,355	3/ 1,300	95	703	608	477	--	33		
Hides & skins incl. furskins	--	--	--	--	--	1,318	1,325	1,456	--	142		
Cattle hides, whole (no) 1/	24,283	25,456	25,973	--	1,939	1,010	1,019	1,150	--	93		
Wink pelts (no) 1/	2,551	2,237	2,697	--	229	67	60	65	--	7		
Grains & feeds (mt)	108,194	93,903	74,437	--	6,061	17,304	13,285	9,476	4/ 8,200	631		
Wheat (mt)	41,699	28,523	25,490	26,500	1,760	6,497	4,264	3,259	5/ 3,000	181		
Wheat flour (mt)	1,071	718	1,137	1,300	146	234	164	204	--	20		
Rice (mt)	2,293	1,972	2,382	2,600	167	897	677	648	500	41		
Feed grains, incl. Products (mt)	55,546	55,362	36,293	40,400	3,066	8,217	6,884	3,819	3,000	241		
Feeds & fodders (mt)	7,021	6,533	8,381	6/ 8,500	882	1,216	1,004	1,289	--	132		
Other grain products (mt)	564	795	754	--	52	243	293	257	--	21		
Fruits, nuts, and preps. (mt)	1,931	1,907	2,003	--	163	1,594	1,687	1,766	--	145		
Fruit juices incl. froz. (hl) 1/	5,598	4,641	3,652	--	304	223	200	148	--	13		
Vegetables & preps. (mt)	1,527	1,420	1,467	--	137	999	946	1,000	--	95		
Tobacco, unmanufactured (mt)	227	257	224	200	29	1,433	1,588	1,318	1,400	163		
Cotton, excl. linters (mt)	1,481	1,277	482	1,400	133	2,395	1,945	678	1,700	130		
Seeds (mt)	252	289	269	--	45	326	352	366	400	55		
Sugar, cane or beet (mt)	285	355	375	--	76	74	65	75	--	11		
Oilseeds & Products (mt)	26,961	23,803	27,557	--	2,569	8,602	6,195	6,266	7/ 6,000	528		
Oilseeds (mt)	20,466	17,886	20,684	8/ 21,100	1,963	6,254	4,324	4,394	--	386		
Soybeans (mt)	19,265	16,621	20,139	20,700	1,940	5,734	3,876	4,174	4,000	374		
Protein meal (mt)	5,060	4,606	5,588	5,500	548	1,217	853	1,127	1,000	110		
Vegetable oils (mt)	1,435	1,311	1,284	--	58	1,131	1,018	746	--	32		
Essential oils (mt)	11	12	7	--	1	96	105	105	--	10		
Other	465	443	568	--	43	1,082	1,069	1,126	--	90		
Total	143,794	125,967	109,941	116,500	9,455	38,027	31,201	26,325	26,000	2,236		
Imports												
Animals, live (no) 1/	1,907	2,120	1,885	--	220	596	569	637	700	51		
Meats & preps., excl. poultry (mt)	905	1,123	1,139	1,127	97	1,931	2,214	2,248	2,400	206		
Beef & veal (mt)	550	674	693	712	56	1,165	1,295	1,252	1,500	109		
Pork (mt)	328	416	406	415	38	703	847	900	900	90		
Dairy products (mt)	382	418	400	410	26	757	763	786	800	57		
Poultry and products 1/	--	--	--	--	--	122	93	101	--	8		
Fats, oils, & greases (mt)	18	21	22	--	2	13	18	17	--	2		
Hides & skins, incl. furskins 1/	--	--	--	--	--	216	240	200	--	20		
Wool, unmanufactured (mt)	59	43	53	--	5	193	145	160	--	15		
Grains & feeds (mt)	1,805	2,070	2,311	2,580	254	534	604	668	700	59		
Fruits, nuts, & preps., excl. juices (mt)	4,036	4,483	4,637	4,830	367	1,634	1,891	1,976	2,000	153		
Bananas & plantains (mt)	2,727	3,022	3,042	3,100	246	666	752	740	700	64		
Fruit juices (hl) 1/	27,247	35,112	31,539	28,000	3,570	671	995	698	600	73		
Vegetables & preps. (mt)	2,093	2,140	2,199	2,260	229	1,314	1,347	1,560	1,500	127		
Tobacco, unmanufactured (mt)	190	191	208	220	14	563	556	605	700	40		
Cotton, unmanufactured (mt)	32	31	41	--	3	17	17	14	--	1		
Seeds (mt)	82	92	89	88	13	97	91	111	100	15		
Nursery stock & cut flowers 1/	--	--	--	--	--	292	318	353	--	10		
Sugar, cane or beet (mt)	2,829	2,338	1,905	1,900	168	1,144	912	654	--	51		
Oilseeds & Products (mt)	1,137	1,271	1,508	1,789	133	799	784	639	600	46		
Oilseeds (mt)	223	253	197	--	7	95	98	69	--	3		
Protein meal (mt)	118	159	138	--	16	21	17	15	--	2		
Vegetable oils (mt)	797	859	1,173	--	110	683	670	555	--	40		
Beverages excl. fruit juices (hl) 1/	14,120	15,494	15,488	--	948	1,547	1,622	1,848	--	112		
Coffee, tea, cocoa, spices (mt)	1,776	1,868	1,940	1,868	152	4,777	4,983	6,099	5,400	428		
Coffee, incl. Products (mt)	1,128	1,128	1,223	1,160	82	3,300	3,244	4,400	3,800	274		
Cocoa beans & Products (mt)	451	539	507	525	52	1,058	1,285	1,189	1,200	112		
Rubber & allied gums (mt)	809	789	801	800	54	854	680	615	600	46		
Other	--	--	--	--	--	844	900	885	--	68		
Total	--	--	--	--	--	18,916	19,740	20,875	20,000	1,605		

\*Fiscal years begin October 1 and end September 30. Fiscal year 1986 began Oct. 1, 1985 and ended Sept. 30, 1986. -- not available. 1/ Not included in total volume. 2/ Forecasts for footnoted items 3/-8/ are based on slightly different groups of commodities. Fiscal 1986 exports of categories used in the 1987 forecasts were: 2/ 413 thousand mt. 3/ 1,306 thousand mt. 4/ 9,648 million. 5/ 3,489 million, i.e. includes flour. 6/ 8,218 thousand mt. 7/ 6,439 million. 8/ 20,481 thousand mt. F = forecast.

Information contact: Steve MacDonald (202) 786-1621.

Table 30. U.S. agricultural exports by regions

Region & country	Fiscal years*				Jan	Change from year* earlier				Jan
	1984	1985	1986	1987 F	1987	1984	1985	1986	1987 F	1987
	\$ million					Percent				
<b>Western Europe</b>	9,265	7,183	6,857	6,700	717	-9	-22	-5	-3	-11
European Community (EC-12)	8,650	6,668	6,442	6,300	681	9	-23	-3	-2	-11
Belgium-Luxembourg	836	470	361	--	49	3	-44	-23	--	-3
France	510	386	431	--	44	-1	-22	9	--	0
Germany, Fed. Rep.	1,260	900	1,001	--	127	-13	-29	11	--	10
Italy	771	677	693	--	96	-4	-12	2	--	2
Netherlands	2,227	1,926	2,042	--	192	-21	-14	6	--	-5
United Kingdom	790	628	628	--	52	-4	-20	0	--	-19
Portugal	702	502	308	--	20	10	-28	-39	--	-37
Spain, incl. Canary Islands	1,232	832	723	--	73	3	-32	-13	--	-46
Other Western Europe	615	515	415	400	36	-10	-16	-19	0	-7
Switzerland	311	232	128	--	13	-12	-26	-45	--	21
<b>Eastern Europe</b>	741	532	447	400	181	-10	-28	-16	0	-86
German Dem. Rep.	132	81	52	--	10	7	-39	-36	--	-94
Poland	197	126	42	--	10	-15	-36	-66	--	-81
Yugoslavia	180	137	134	--	2	-28	-24	-2	--	-79
Romania	155	88	112	--	34	35	-43	27	--	-67
<b>USSR</b>	2,512	2,525	1,105	600	0	156	1	-56	-45	-100
<b>Asia</b>	15,209	11,933	10,498	10,700	912	12	-22	-12	2	-4
West Asia (Mideast)	1,865	1,452	1,243	1,300	97	26	-22	-14	8	-27
Turkey	222	129	111	--	4	693	-42	-13	--	-82
Iraq	423	371	321	--	22	31	-12	-13	--	-46
Israel	351	300	255	--	26	20	-15	-15	--	-32
Saudi Arabia	497	381	335	--	20	11	-23	-12	--	-1
South Asia	867	599	517	400	16	-26	-31	-14	-2	-62
Bangladesh	157	205	94	--	3	3	31	-54	--	-16
India	376	129	90	--	6	-51	-66	-30	--	3
Pakistan	285	228	285	--	1	33	-20	25	--	-97
China	692	239	88	100	35	27	-65	-63	0	287
Japan	6,935	5,663	5,139	5,100	474	18	-18	-9	0	-1
Southeast Asia	1,218	842	725	800	47	1	-31	-14	14	-6
Indonesia	438	204	172	--	9	7	-53	-16	--	-26
Philippines	300	285	270	--	18	-21	-5	-5	--	45
Other East Asia	3,631	3,138	2,787	3,000	243	10	-14	-11	7	2
Taiwan	1,409	1,342	1,108	--	89	14	-5	-17	--	-2
Korea, Rep.	1,816	1,400	1,277	--	122	6	-23	-9	--	9
Hong Kong	407	396	399	--	32	18	-3	1	--	-6
<b>Africa</b>	2,868	2,527	2,135	2,000	155	26	-12	-16	-5	-12
North Africa	1,542	1,207	1,402	1,400	136	6	-22	16	0	7
Morocco	341	156	158	--	15	52	-54	2	--	-61
Algeria	162	220	330	--	18	-20	36	50	--	-30
Egypt	882	766	875	--	100	-3	-13	14	--	57
Sub-Sahara	1,327	1,320	733	600	18	62	-1	-44	-14	-61
Nigeria	345	367	158	--	3	4	6	-57	--	-65
Rep. S. Africa	525	189	70	--	2	304	-64	-63	--	-47
<b>Latin America &amp; Caribbean</b>	5,279	4,570	3,599	3,900	268	10	-13	-21	8	-4
Brazil	438	557	444	--	35	10	27	-20	--	-36
Caribbean Islands	827	771	752	700	77	7	-7	-2	0	40
Central America	396	361	334	400	19	11	-9	-7	33	17
Colombia	220	238	137	--	4	-14	8	-42	--	-61
Mexico	1,966	1,566	1,115	1,400	79	11	-20	-29	27	-29
Peru	227	106	108	--	9	-12	-53	2	--	28
Venezuela	778	721	493	--	26	26	-7	-32	--	84
<b>Canada</b>	1,936	1,727	1,466	1,600	154	4	-11	-15	7	15
<b>Oceania</b>	216	204	216	200	23	-4	-6	6	10	130
<b>Total</b>	38,027	31,201	26,325	26,000	2,236	9	-18	-16	-1	-12
<b>Developed Countries</b>	19,180	15,225	13,963	13,600	1,394	4	-21	-8	-3	-6
<b>Less Developed Countries</b>	14,802	12,680	10,721	11,300	798	7	-15	-15	6	-1
<b>Centrally Planned Countries</b>	3,945	3,296	1,640	1,100	43	67	-16	-50	-31	-75

\*Fiscal years begin October 1 and end September 30. Fiscal year 1986 began Oct. 1, 1985 and ended Sept. 30, 1986. F = forecast.  
 -- not available.

Note: Adjusted for transshipments through Canada.

Information contact: Steve MacDonald (202) 786-1621.



# Farm Income

## Table 31.—Farm income statistics

	Calendar years										
	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986 F	1987 F
	\$ billion										
1. Farm receipts	97.5	114.3	133.8	142.0	144.1	147.1	140.9	146.4	148.5	138	134
Crops (incl. net CCC loans)	48.6	53.2	62.3	71.7	72.5	72.4	67.0	69.2	72.7	62	58
Livestock	47.6	59.2	69.2	68.0	69.2	70.2	69.5	72.9	69.4	71	71
Farm related 1/	1.2	1.9	2.2	2.3	2.5	4.5	4.4	4.3	6.4	5	5
2. Direct Government payments	1.8	3.0	1.4	1.3	1.9	3.5	9.3	8.4	7.7	12	16
Cash payments	1.8	3.0	1.4	1.3	1.9	3.5	4.1	4.0	7.6	8	9
Value of PIK commodities	0.0	0.0	0.0	0.0	0.0	0.0	5.2	4.5	0.1	4	7
3. Total gross farm income (4+5+6)	108.8	128.4	150.7	149.3	166.3	163.4	152.4	174.4	166.6	158	156
4. Gross cash income (1+2) 2/	99.3	117.3	135.1	143.3	146.0	150.6	150.2	154.9	156.2	150	150
5. Nonmonetary income 3/	8.4	9.3	10.6	12.3	13.8	14.1	13.2	13.3	11.5	10	9
6. Value of inventory change	1.1	1.9	5.0	-6.3	6.5	-1.3	-10.9	6.3	-1.1	-3	-3
7. Cash expenses 4/	71.4	84.2	101.7	109.1	113.2	113.8	113.0	115.6	112.1	106	103
8. Total expenses	88.9	103.2	123.3	133.1	139.4	140.7	139.5	141.7	136.1	129	124
9. Net cash income (4-7)	27.8	33.1	33.4	34.2	32.8	36.8	37.1	39.3	44.0	44	47
10. Net farm income (3-8)	19.9	25.2	27.4	16.1	26.9	22.7	13.0	32.7	30.5	29	32
Deflated (1982\$)	29.5	34.9	34.9	18.8	28.6	22.7	12.5	30.3	27.3	26	27
11. Off-farm income	26.1	29.7	33.8	34.7	35.8	36.4	37.0	37.9	40.8	43 <sup>1</sup>	44
12. Loan charges 5/: Real estate	7.6	7.6	13.0	9.3	9.4	4.0	2.5	-0.8	-5.6	-5 <sup>1</sup>	-3
13.     5/: Nonreal estate	6.8	8.3	10.9	5.9	6.2	3.4	1.0	-0.8	-9.2	-6 <sup>1</sup>	-3 <sup>1</sup>
14. Rental income plus monetary change	3.5	4.1	5.3	6.1	6.4	6.4	5.7	7.8	8.0	7 <sup>1</sup>	7
15. Capital expenditures 5/	15.0	17.9	19.9	18.0	16.8	13.7	13.0	12.5	10.1	8	7
16. Net cash flow (9+12+13+14-15)	30.8	35.1	43.7	37.5	37.9	37.0	33.3	33.0	27.1	32	41

F = midpoint of forecast range. 1/ Income from machine hire, custom work, sales of forest products, and other misc. cash sources. 2/ Numbers in parentheses indicate the combination of items required to calculate a given item. 3/ Value of home consumption of self-produced food and imputed gross rental value of farm dwellings. 4/ Excludes capital consumption, perquisites to hired labor, and farm household expenses. 5/ Excludes farm households. Totals may not add due to rounding.

Information contact: Richard Kold (202) 786-1808.

## Table 32.—Balance sheet of the U.S. farming sector

	Calendar years										
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986 F
	\$ billion										
<b>Assets</b>											
Real estate *	453.5	507.7	600.7	704.2	779.2	780.2	745.6	736.1	639.6	559.6	504
Non-real estate	136.9	149.0	183.0	213.9	224.0	225.0	232.2	220.4	216.5	211.9	198
Livestock & poultry	29.0	31.9	51.3	61.4	60.6	53.5	53.0	49.7	49.6	45.9	45
Machinery & motor vehicles	63.8	69.9	78.2	90.8	96.8	103.0	103.7	100.9	95.0	92.2	89
Crops stored	22.1	24.8	28.0	33.5	36.5	36.1	40.6	33.2	33.7	37.1	30 <sup>1</sup>
Financial assets	21.8	22.4	25.5	28.2	30.1	32.4	34.9	36.5	38.1	36.7	35
Total farm assets	590.4	656.7	783.7	918.1	1,003.2	1,005.2	977.8	956.5	856.1	771.4	702
<b>Liabilities</b>											
Real estate	50.3	58.0	65.6	78.5	87.9	97.2	101.2	103.7	102.9	97.3	89
Non-real estate	46.6	52.4	66.4	76.7	82.5	91.6	102.4	98.7	95.8	94.8	79
CCC loans	1.0	4.5	5.7	5.1	5.0	8.0	15.4	10.8	8.6	16.9	19
Other non-real estate	45.6	52.4	60.7	71.6	77.5	83.6	87.0	87.9	87.1	77.9	68
Total farm liabilities	97.0	114.9	131.9	155.2	170.4	188.8	203.6	202.4	198.7	192.1	176
Total farm equity	493.5	541.8	651.8	762.9	832.9	816.4	774.2	754.0	657.3	579.3	526
	Percent										
<b>Selected ratios</b>											
Debt-to-assets	16.4	17.5	16.8	16.9	17.0	18.8	20.8	21.2	23.2	24.9	25.1
Debt-to-equity	18.6	20.0	19.3	19.6	19.7	23.1	26.3	26.8	30.2	33.2	33.6
Debt-to-net cash income	323.2	412.3	398.2	464.4	497.7	576.1	553.0	545.5	505.8	433.2	400.8

\* Excludes farm household. F = midpoint of forecast range.

Information contact: Richard Kold (202) 786-1808.

Table 33.—Cash receipts from farm marketings, by States

Region State	Livestock & Products				Crops 1/				Total 1/			
	1985	1986	Nov 1986	Dec 1986	1985	1986	Nov 1986	Dec 1986	1985	1986	Nov 1986	Dec 1986
\$ million 2/												
North Atlantic												
Maine	250	247	26	20	127	134	12	13	378	381	38	33
New Hampshire	71	70	6	6	36	38	4	4	107	108	10	8
Vermont	352	352	29	31	32	37	8	5	384	388	38	36
Massachusetts	124	125	10	11	265	291	52	32	389	416	62	42
Rhode Island	13	14	1	1	49	63	4	9	63	77	5	10
Connecticut	206	212	20	20	110	162	12	10	316	374	32	31
New York	1,845	1,820	155	155	719	690	66	78	2,564	2,510	221	233
New Jersey	144	145	12	12	447	445	38	26	591	590	50	38
Pennsylvania	2,184	2,138	176	181	966	930	88	90	3,150	3,069	264	270
North Central												
Ohio	1,511	1,535	137	129	2,430	1,993	340	240	3,940	3,528	477	369
Indiana	1,728	1,828	189	168	2,869	2,167	369	281	4,597	3,995	558	449
Illinois	2,063	2,051	223	183	5,704	4,594	659	638	7,768	6,645	882	821
Michigan	1,231	1,218	112	108	1,619	1,424	214	203	2,850	2,642	326	311
Wisconsin	4,100	4,112	351	348	1,012	889	141	129	5,111	5,002	492	477
Minnesota	3,370	3,305	312	271	3,102	2,552	520	436	6,472	5,857	832	707
Iowa	4,811	4,825	510	410	4,390	4,019	629	887	9,201	8,844	1,139	1,296
Missouri	1,930	1,962	239	175	1,738	1,545	251	263	3,668	3,508	490	438
North Dakota	686	668	81	63	2,060	1,467	179	127	2,746	2,134	260	191
South Dakota	1,903	1,751	173	137	1,076	877	148	102	2,979	2,629	321	239
Nebraska	4,113	4,232	423	387	3,093	2,558	416	503	7,206	6,790	840	889
Kansas	3,264	3,432	324	293	2,478	1,851	273	241	5,741	5,283	597	534
Southern												
Delaware	352	421	31	30	137	117	14	6	490	538	45	36
Maryland	770	833	63	63	378	370	43	25	1,148	1,203	106	89
Virginia	1,004	1,033	91	69	623	476	71	42	1,627	1,509	162	111
West Virginia	182	191	18	15	49	61	8	7	241	251	26	22
North Carolina	1,934	2,143	203	182	1,980	1,542	121	151	3,914	3,686	325	333
South Carolina	415	432	42	32	618	448	26	49	1,033	880	67	81
Georgia	1,727	1,855	155	140	1,600	1,321	131	90	3,327	3,176	285	230
Florida	1,015	1,010	76	65	3,726	3,681	192	321	4,741	4,691	268	386
Kentucky	1,352	1,363	251	79	1,519	1,055	181	343	2,871	2,418	432	423
Tennessee	1,000	984	90	68	1,057	840	181	159	2,057	1,833	270	228
Alabama	1,301	1,389	119	89	776	556	74	51	2,077	1,945	193	140
Mississippi	1,010	1,071	91	79	1,126	675	226	133	2,136	1,747	318	211
Arkansas	1,825	2,007	161	131	1,455	866	233	97	3,280	2,873	394	229
Louisiana	491	524	44	28	968	838	197	184	1,460	1,362	241	212
Oklahoma	1,726	1,801	180	137	938	637	65	59	2,664	2,438	244	196
Texas	5,441	5,571	467	389	3,857	3,023	257	167	8,298	8,594	724	555
Western												
Montana	802	817	141	84	405	417	59	46	1,207	1,234	200	129
Idaho	862	816	78	59	1,200	1,020	185	128	2,063	1,836	263	188
Wyoming	479	476	54	32	110	112	29	18	589	588	83	50
Colorado	2,018	2,028	207	186	1,145	894	101	138	3,164	2,822	308	324
New Mexico	718	708	101	40	369	308	46	31	1,086	1,018	147	71
Arizona	702	630	57	23	827	771	125	114	1,529	1,401	182	137
Utah	409	411	46	33	138	133	12	11	548	544	58	44
Nevada	144	144	9	10	78	73	8	8	222	217	18	18
Washington	932	877	70	74	1,865	1,741	170	146	2,797	2,618	240	220
Oregon	622	607	70	64	1,156	1,099	112	87	1,778	1,706	182	151
California	4,165	3,950	366	344	9,805	9,989	1,303	865	13,970	13,938	1,669	1,209
Alaska	8	8	1	1	18	21	3	2	26	29	3	3
Hawaii	83	82	7	7	458	487	42	42	540	580	49	49
United States	69,401	70,238	6,796	5,660	72,702	62,307	8,641	7,840	142,103	132,644	15,437	13,501

1/ Sales of farm products include receipts from commodities placed under CCC loans minus value of redemptions during the period.  
 2/ Estimates as of the end of current month. Rounded data may not add.

Information contact: Roger Strickland (202) 786-1804.



Table 34.—Cash receipts from farming

	Annual						1985	1988				
	1981	1982	1983	1984	1985	1986	Dec	Aug	Sept	Oct	Nov	Dec
	\$ million											
Farm marketings and CCC loans *	141,616	142,624	136,460	142,153	142,103	132,544	14,307	9,577	11,060	14,481	15,437	13,501
Livestock and products	69,151	70,249	69,453	72,905	69,401	70,238	5,605	6,105	6,029	6,873	6,796	5,660
Meat animals	39,748	40,917	38,893	40,832	38,185	38,174	2,993	3,238	3,304	4,053	3,831	3,084
Dairy products	18,095	18,234	18,757	17,944	18,135	17,978	1,489	1,487	1,446	1,502	1,470	1,531
Poultry and eggs	9,949	9,538	10,003	12,219	11,196	12,198	1,007	1,248	1,111	1,203	1,123	920
Other	1,358	1,560	1,800	1,910	1,885	1,887	117	132	169	114	271	116
Crops	72,465	72,375	67,007	69,248	72,702	62,307	8,702	3,471	5,031	7,609	8,641	7,840
Food grains	11,619	11,469	9,733	9,578	8,846	5,365	359	537	665	725	342	269
Feed crops	17,770	17,404	15,367	15,728	21,387	17,183	3,580	641	734	1,700	2,823	3,014
Cotton (lint and seed)	4,055	4,454	3,711	3,270	3,800	2,713	829	-83	-128	482	779	555
Tobacco	3,250	3,342	3,768	2,841	2,722	1,901	547	295	404	270	182	417
Oil-bearing crops	13,853	13,812	13,530	13,861	12,237	10,269	1,475	236	868	1,904	1,773	1,354
Vegetables and melons	8,772	8,113	8,512	9,237	8,582	8,615	411	803	903	877	455	447
Fruits and tree nuts	6,603	6,821	6,062	6,787	6,812	7,445	574	569	835	887	1,013	776
Other	6,543	6,960	7,326	7,946	8,306	8,815	927	478	752	763	1,273	1,008
Government payments	1,937	3,492	8,295	8,430	7,704	11,113	978	438	939	664	337	1,816
Total	143,548	146,116	145,755	150,583	149,807	143,657	15,285	10,015	11,999	15,145	15,774	15,317

\* Receipts from loans represent value of commodities placed under CCC loans minus value of redemptions during the month.

Information contact: Roger Strickland (202) 786-1804.

Table 35.—Farm production expenses

	Calendar years									
	1977	1978	1979	1980	1981	1982	1983	1984 R	1985	1988 P
	\$ million 2/									
Feed	13,967	16,036	19,314	20,971	20,855	18,592	21,725	19,850	19,588	18,816
Livestock	7,072	10,150	13,012	10,670	8,999	9,696	8,814	9,498	8,991	9,317
Seed	2,484	2,638	2,904	3,220	3,428	3,172	2,987	3,447	3,369	3,129
Farm-origin inputs	23,523	28,824	35,230	34,861	33,282	31,460	33,526	32,795	31,948	31,262
Fertilizer	6,529	6,619	7,369	9,490	9,409	8,018	7,067	7,429	7,258	6,390
Fuels and oils	4,356	4,609	5,635	7,879	8,570	7,888	7,503	7,143	6,584	5,193
Electricity	1,069	1,389	1,447	1,526	1,747	2,041	2,146	2,166	2,073	2,115
Pesticides	1,938	2,656	3,436	3,539	4,201	4,282	4,161	4,768	4,965	4,729
Manufactured inputs	13,892	15,273	17,887	22,434	23,927	22,229	20,877	21,506	20,882	18,426
Short-term interest	4,203	5,167	6,868	8,717	10,722	11,349	10,615	10,396	8,821	7,322
Real estate interest	4,329	5,060	6,190	7,544	9,142	10,481	10,815	10,733	9,878	8,753
Total interest charges	8,532	10,227	13,058	16,261	19,864	21,830	21,430	21,129	18,698	16,074
Repair and operation	5,430	6,638	7,280	7,648	7,587	7,730	7,543	7,850	7,450	7,303
Hired labor	7,131	8,279	8,982	9,294	8,932	10,182	9,660	9,838	10,347	10,883
Machine hire and custom work	1,682	1,776	2,063	1,823	1,984	2,025	1,896	2,170	2,185	2,057
Dairy deduction	0	0	0	0	0	0	633	656	163	431
Other operating expenses	6,129	7,703	9,047	9,378	9,865	10,700	10,646	10,860	11,522	11,260
Total operating expenses	20,372	24,396	27,732	28,143	28,368	30,637	30,378	31,374	31,667	31,934
Depreciation	15,493	16,963	19,345	21,474	23,573	23,886	23,491	23,020	21,101	19,784
Taxes	3,660	3,603	3,871	3,891	4,246	4,394	4,323	4,384	4,423	4,526
Net rent to non-operator landlord	3,412	3,963	6,182	6,075	6,184	6,219	5,441	7,504	7,387	6,945
Other overhead expenses	22,565	24,529	29,398	31,440	36,003	34,499	33,255	34,908	32,911	31,255
Total production expenses	88,884	103,249	123,305	133,139	139,444	140,654	139,466	141,712	136,108	128,951

1/ Includes operator household. 2/ Totals may not add due to rounding. R = revised. P = preliminary.

Information contact: Richard Kodl (202) 786-1808.

## Transportation

Table 36.—Rail rates; grain and fruit-vegetable shipments; truck costs

	Annual			1986						1987
	1984	1985	1986 P	Jan	Aug	Sept	Oct	Nov	Dec	Jan
Rail freight rate index 1/ (Dec 1984=100)										
All products	99.3	100.0	100.7	101.0	100.7	100.6	100.6 P	100.6 P	99.6 P	99.7 P
Farm products	98.7	99.0	99.6	99.6	99.9	99.7	99.1 P	99.1 P	98.4 P	98.5 P
Grain	98.6	98.3	98.9	98.9	99.2	99.2	98.4 P	98.4 P	97.6 P	97.8 P
Food Products	99.1	100.1	99.8	101.0	99.6	99.6	99.6 P	99.4 P	98.2 P	98.4 P
Grain										
Rail carloadings (thou cars) 2/	27.2	22.8	24.3	25.2	24.2	26.5	32.8	29.8	24.8	23.0 P
Fresh fruit & vegetable shipments										
Piggy back (thou car) 3/ 4/	570	602	620	607	514	471 P	524 P	486 P	479 P	527 P
Rail (thou car) 3/ 4/	640	532	540	637	183	511 P	554 P	705 P	740 P	829 P
Truck (thou car) 3/ 4/	8,006	8,298	8,502	9,233	7,848	6,096 P	8,162 P	8,511 P	8,345 P	8,180 P
Cost of operating trucks hauling produce 5/										
Owner operator (cts/mile)	115.5	116.1	113.1	118.4	111.8	111.8	111.8	112.4	113.0	114.9
Fleet operation (cts/mile)	115.3	116.7	113.6	118.9	112.1	112.2	112.4	113.0	113.5	115.2

1/ Department of Labor, Bureau of Labor Statistics, revised March 1985. 2/ Weekly average; from Association of American Railroads. 3/ Weekly average; from Agricultural Marketing Service, USDA. 4/ Preliminary data for 1985 and 1986. 5/ Office of Transportation, USDA. P = preliminary.

Information contact: T.Q. Hutchinson (202) 786-1840.

## Indicators of Farm Productivity

Table 37.—Indexes of farm production, input use, and productivity.

(See the Jan.-Feb. 1987 issue.)

Information contact: Charles Cobb (202) 786-1803.

Table 38.—Supply and use of fertilizer

(See the June 1986 issue, page 23.)

Information contact: Paul Andrienas (202) 786-1456.

Table 39.—Supply and use of major pesticides

(See the Oct. 1986 issue, page 25.)

Information contact: Stan Daberkow (202) 786-1458.

## Food Supply and Use

Table 40.—Per capita food consumption indexes (1967 = 100)

(See the Dec. 1986 issue, page 55.)

Information contact: Karen Bunch (202) 786-1870.

Table 41.—Per capita consumption of major food commodities (retail weight)

(See the Dec. 1986 issue, page 56.)

Information contact: Karen Bunch (202) 786-1870.



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